



# Wings!



**\* Foster's gold — up for grabs again \***

see page 2

\* Hang gliding schools special feature \*

## Wings! contributors

The BHGA financial year ends early in December so all outstanding expenses claims must be with treasurer Percy Moss by then.

Any contributors who feel they may be owed money should therefore advise the editor NOW!!



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BHGA



Member of the  
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The views expressed in Wings! are not necessarily those of the association, its council, officers or the editor.

All contributions to the magazine are welcome. Articles should be typewritten (double-spaced), one side of the paper only where possible. If not typewritten, they should be CLEARLY written, with plenty of space between the lines.

Photographs should bear full captions and any material to be returned should be accompanied by a stamped addressed envelope. Any other material will be kept and filed for future use.

The Editor reserves the right to edit contributions.

If your Wings! does not arrive, or if you change your address, please contact the membership secretary at the Taunton headquarters. Please give FIVE WEEKS notice of change of address and in all correspondence quote your full name, address and MEMBERSHIP NUMBER (where applicable).

If you, your club or any hang gliding activity gets written up in a local or national paper, please send a cutting to the Taunton office for our cuttings collection (this applies to the UK only).

## The BHGA Council

**President**, Ann Welch OBE; **Chairman**, Roy Hill (Longworth (0865) 821129; **Treasurer**, Percy Moss (0926-59924).

**Members**: David Bedding (08444 — 7186); Diane Hanlon (051-652-5918); John Ievers (049-525-4521); Mike Watson (01-299-1199); Terry Prendergast (029673-8033); Jim Taggart (0874-82366); James McMenemy (09804-6147).

**Officers and staff**: Principal Executive Officer; Barry Blore (0235-834033); Office Manager, Ruth Kohlman (0823-88140); Training Officer, Bob Harrison (c/o 0823-88140); Medical Adviser, Dr. Dunstan Hadley; BHGA Solicitor, Anthony McLaren. Membership Secretary, Janet Hayes; Record and FAI Award claims, Rick Wilson (0734) 21099; Radio Communications Officer, Dave Smith; Airspace Co-ordinator, Ted Frater. Overseas Travel Adviser, Lindsay Ruddock; Competitions chairman Derek Evans (0892-36026).

# It's a Foster's updraught!

## Open gets new deal

FOSTER'S, the Australian lager people, are to sponsor hang gliding again next year.

The deal, announced at a press conference by the Foster's Sports Foundation, means the go-ahead for a repeat of the successful Foster's Draught British Open.

The event will be a cross-country contest from May 8-14 and will be centred on Abergavenny, a venue that satisfies both the flying fraternity and the brewer's marketing plans.

No exact figure has been put on the deal negotiated with Foster's by BHGA Principal Executive Officer Barry Blore but it runs into several thousand pounds — enough to finance the Open and some other BHGA activities. In addition, the foundation aims to provide publicity and other back-up services worth several thousand pounds.

## Safety

Announcement of Foster's continued backing for hang gliding coincided with news of a new Foster's fund to aid "minority" sports with grants of up to £1,000 for coaching, training and safety schemes.

The fund, which starts at £20,000 and will be bolstered by the sale of special Foster's Sport goods, will be administered by a committee of eminent sports men and women under the chairmanship of Sports Council chairman Dick Jeeps. It comprises Alan Wells, Bill Beaumont, Sharron Davies, Lynn Davies and Desmond Lynam, the BBC Grandstand presenter.

"This is the sort of backing which sport really needs," said Mr. Jeeps. "It is a venture which will help sports bodies to develop at grass roots level and will therefore increase the number of people taking part in sports activities."

The decision to stay with hang gliding marks Foster's satisfaction with their deal at the Isle of Wight last year. Surfing, windsurfing and canoeing will also receive major funding.

## Trophies

"Because of the interest created by Foster's involvement with these sports, the directors wished to continue not only to help the development of these sports but also extend their support across a much wider range of activities," said a Foster's Draught spokesman.

An international field of about 50 pilots will compete for cash prizes and trophies worth £2,500.

First prize will be £1,000, second prize £500, third £250, fourth £100, fifth £50, sixth to tenth £25 and £100 for the top team. The current champion is Johnny Carr who, with Michael Carnet, also won the team prize for the Southern Club.

Competitions boss Derek Evans is expected again to be meet director, subject to negotiations.

For the moment, overseas competitors only are asked to contact Barry Blore for further details.

The address is: 40 Castle Street, Steventon, Abingdon, Oxon. OX13 6SR.

British entries will be invited in the January edition of Wings! when full details of entry fees etc. will be given.

## Training matters

BHGA training officer Bob Harrison and new training chairman Dave Clayton have met and drawn up a list of areas requiring attention.

They are: BHGA membership for trainees; Pilot Two requirements; airworthiness and quality of training gliders; coaching requirements; the "ribbon" pilot competence identification system; and training standards.

The make-up of the new training committee is: Barry Blore, Diane Hanlon, Tim Williams, Michael Carnet, Terry Prendergast, Keith Cockcroft and Ann Welch. Dave told council the new Gower Aviation school at Swansea was now BHGA-registered.

## Xmas cards

Don't forget to order your BHGA Christmas cards... NOW — while stocks last!

The cards, as pictured, are £1.50 for 12 inc. p&p. Order now, sending your name and address and cheque made payable to the BHGA to 167a Cheddon Road, Taunton, Somerset, TA2 7AH.



Wings! is edited and designed by Stan Abbott and published in the second week of each month by the BHGA. Additional sub-editing by Martin Robinson.

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All other correspondence, including advertising and subscriptions, to the BHGA at the address on the facing page.

### In this issue

Cover picture by Patrick Laverty on a Skyhook Cutlass was taken using a fish-eye lens over the Elan Valley in Mid-Wales.

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Noel Whittall,  
Wings! Committee

## If you drink, don't fly

SOME members of the Southern Hang Gliding Club have been washing their dirty linen in public recently and the question of drinking and flying has been raised.

It is against air law to fly while drunk. Dr. Dunstan Hadley, the BHGA medical adviser, counsels no alcohol should be consumed less than 12 hours before flying.

The following is an open letter from Noel Whittall to members of the Dales Hang Gliding Club which was published in the club newsletter recently. Its message is just as applicable nationally.

Dear Dales Fliers,

There is not a pilot in the club with whom I do not enjoy drinking a pint or so after a day's flying. However, I do not enjoy flying with pilots who have had a pint or so beforehand.

Ours is a sport which demands a very high level of judgement at every stage. If your opinion of your own judgement is so high that you don't think a few beers will impair it, then you are only kidding yourself. That is fact, not just the cranky idea of a boring old pilot with a bee in his bonnet.

Alternatively, if you need those beers just to get up the courage to fly, then it is time you seriously thought about another sport. If you feel that the odd pint makes you fly better, then reflect that in reality all it is doing is letting you take chances which you would normally have avoided. And you are taking those chances not just with your life, but those of all your fellow pilots on the ridge.

One of the standard rules of aviation is that no pilot may fly if he has taken alcohol within eight hours of take-off. Parachutists operate under a similar rigid ban. (I was once physically prevented from jumping because I had consumed a single half-pint of bitter six and a half hours earlier.)

Over the years the Dales Club has never been a drink and fly club, unlike some others. It is probably no coincidence that it also has a safety record unrivalled by clubs of similar size.

It is because a few very experienced members have commented that a visit to the pub in the course of a day's flying seems to be becoming usual for some of our newer fliers, that I am writing this open

letter to you all. The message should by now be obvious:

If you want to fly the Dales sites, then do so stone cold sober.

Although I am writing this letter personally, I am absolutely certain that I am expressing the opinion of the overwhelming majority of the club.

Yours sincerely,

Noel Whittall, Chairman. ♡

## Fair play?

THE British enjoy a reputation for fair play around the world — or at least we like to think we do.

Not everyone in world hang gliding shares that view. One who certainly doesn't is Jeff Burnett who captained the US team that came to the Yorkshire Dales to fight for the American Cup.

Writing in September's Hang Gliding (the US association's magazine) he argues, albeit fairly obliquely, that the British used the rule book and general gamesmanship in their fight to regain the Cup.

There IS a strong taste of sour grapes about the report ("The cup was filled and I wondered if the English team all got a taste of the copper cleaner I had used to shine up the trophy," says Burnett) and yet, one can't help thinking he has a point.

The British team is a professional outfit that does keep itself to itself — members go to bed early to be fresh for flying rather than burning the midnight oil in social intercourse with other teams. And in Yorkshire it certainly guarded its local knowledge jealously from other teams.

But, in a year in which Britain's success in world skies has been quite phenomenal, is it not time for us to show the rest of the world that we don't stand aloof, that we want to be ambassadors for the sport in this country and gain a reputation as not only the best, but the fairest team. Perhaps that might negate some of the jealousy that arguably prejudices evenhandedness towards British interests in some competitions (e.g. Michael Carnet's shoddy treatment at the European championships).

Hopefully, a good first step in this direction will be the announcement that we will be sending a British team to Hungary next year — the first westerners to venture beyond the Iron Curtain can perhaps do something to rescue our tarnished image by sharing some of our expertise with this enthusiastic up-and-coming nation.



Stan Abbott,  
Editor

BHGA Council has turned down a request from Wings! Editor Stan Abbott that he be allowed to act as agent for Robert Bailey in seeking sponsorship.

Announcing the 5-2 vote after an hour-long discussion behind closed doors, chairman Roy Hill said: "We have taken the view that the business of attracting sponsorship is not compatible with being editor of Wings!" Council did not wish the editor to be prone to allegations of commercial bias.

Stan had announced his plans in a letter to council members and officers saying "(I) am satisfied that so long as it is generally known about, there need be no prejudice to my editorship."

He asked council for a clearer definition of what work he was allowed to do, when exploiting the editor's title to supplement his income from Wings!

Expressing disappointment at the decision after the meeting, he said: "I am not heartbroken as the scheme could easily have cost me a

lot of time for no reward.

"But there was a chance we could have pulled off a deal which could only have been to the general benefit of hang gliding. I am sad to have been denied the chance to try my hand as I believe that not only is Robert Bailey one of our most marketable assets, but I also feel I am the person best placed and most skilled to market that asset."

He had said in his letter any potential deal of wider BHGA interest would be passed on to Barry Blore.

## Council rejects sponsor scheme



• Note — Photos 1 to 9 were taken on the flight. Photos 10 and 11 were taken on the previous flight. Photo 12 has been "stolen" — the film ran out

Pictures show, top L-R: 1) a glide toward Leyburn, 2) a sailplane overtook me, 3) a last look down Wensleydale, 4) I dared to take a photo. Middle, L-R: 5) looking up at Carlton Bank, 6) the Tees estuary, 7) Scaling reservoir, 8) a close up of Scaling reservoir. Bottom, L-R: 9) above Runswick Bay, 10) Whitby: a further six miles, 11) Whitby, 12) the landing approach.

# The spy who went up in the cold

THE day began with a phone call from our local weather man, Brian Ayton.

He was in a state of near panic: Wether Fell was the place to be for an XC trip to Hartlepool. The wind direction and strength would be relatively constant with height, allowing thermals to remain well formed on their way up to a cloud base of about 5,000ft.

Just one snag — I'd got to be there in an hour before the ridge of high pressure passed over, swinging the wind to the south west.

There was just time to examine the maps and measure possible distances before setting off without sandwiches or a new film for the camera.

## The Escape

I took off at 11.15am into a blue sky with lots of bubbling cumulus. A couple of pilots were already in the air. The wind was a touch south of west and conditions on the WNW hill rapidly became unreliable.

About an hour later, getting increasingly desperate to be on my way, I left on a blue thermal, only to fall out of the bottom of it a couple of miles behind the hill. The other pilots on the hill last saw me heading crosswind towards a decaying cloud street that ran along Wensleydale, and thought I'd blown it.

They were nearly right: although I arrived under the street with 1,000ft above take-off, there was little lift. I spent a good 15 minutes groping around in next to nothing until, over Bainbridge, the lift blossomed into 500ft/min all the way to the chilly cloud base at 5,000ft ASL.

I felt I could relax at last, and celebrated by taking a photo of the village below. The flight along Wensleydale was fairly leisurely, and with only a few hundred yards to fly from cloud to cloud I found time to assess my situation.

## Danger

As I approached the Catterick danger area I had to decide how to avoid it — by crossing the moors to the north of it, or staying in Wensleydale to pass to the south of it. I preferred the southerly route and soon found myself in particularly generous lift above Redmire at the beginning of the most magnificent cloud street you've ever seen. The street, needless to say, lay straight through the middle of the airspace. The sky over Leyburn, my intended direction, was inevitably cloudless.

I decided to wait over Redmire for the situation to improve, killing time and staying up by playing cat and mouse with the first cloud in the street. When in need of lift I'd tiptoe under its dark base; before I knew it I'd be grabbed by the fierce lift, and with bar to my knees I'd be running from the clammy grasp of the dark cloud, through the wisps of its base, then bursting back into the brilliant sunshine.

The cloud street slowly withdrew into the danger area and with numerous military gun shots sounding out and seeing the red warning

flags flying, I decided to retreat.

The prospects to the east had improved considerably, so after a four-mile glide toward Leyburn I was circling skyward again.

## Spy in the Sky

The clouds above Leyburn soon developed into another street in the previously blue sky leading me out into 25 miles of flatlands between the Dales and the Cleveland Hills. A sailplane overtook me about a thousand feet below and was soon climbing to cloudbase a mile or two ahead of me.

I took a last look down Wensleydale from cloudbase, then I turned and with bar to my knees I set off in hot pursuit. I was soon wheeling above Catterick airfield but the sailplane was now long gone.

I could see quite a few aircraft on the ground, including the Vulcan bomber that made an emergency landing there once. It couldn't take off again on such a short runway, so they scrapped it and now use it for fire practice! I felt rather uneasy spying down on the airfield especially when I dared to take a photo. Hoping they didn't think I was a Russian, I almost expected flak to start exploding around me. I was actually 2,000ft above the military air traffic zone belonging to RAF Leeming which I could see a few miles to the south.

## A Low Profile

With the patchy cloud street leading the way toward the North York Moors, I set sail for the next big cloud. I had seen another sailplane climbing beneath this one about five minutes before, but by the time I got there the cloud was decaying and so was my height.

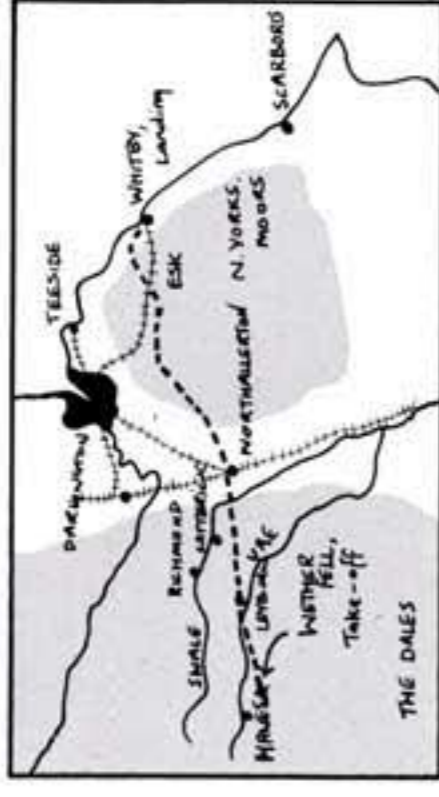
As I sank lower and lower I started to get depressed: the sun was beating down from a beautiful blue sky with lots of fluffy cumulus; there were a lot of XC miles in the sky, but not for me. With nearly 1,000ft below take-off and 900ft ASL I forced myself to take a photo looking up at the Carlton Bank that I never reached, still some ten miles away.

I was surprised when my vario, having remained insistently silent for so long, let slip a little warble! It was a clue to a rather vague, elusive thermal that didn't blossom until it had made me work hard for the first couple of thousand feet.

After spending 20 minutes submerged in concentration I relaxed at the cool 5,500ft cloud-base. Excited by the newly regained prospects, I discovered my cloud street was now leading me just to the north west of the Cleveland Hills — I'd actually been given another chance!

The hills rise to the North York Moors, broken by deep dales and valleys. They were causing clouds of a more random nature, tempting me to jump the wide blue gap between. They would lend themselves to the possibility

## A cross-country in words and pictures by Peter Hargreaves



of crosswind flying and in turn to that of reaching Whitby or even Scarborough.

I decided to play safe and virtually guarantee a flight to the coast at Redcar to equal Bob Bailey's score in the National XC League. The street took me at a leisurely pace across the A19, then with the A172 on my right I followed it over Hutton Rudby and on towards Stokesley. Back on home ground as I passed Carlton Bank, I looked out for other hang gliders, but could see none.

I was directly over the triking field and there was no activity there either. "Perhaps they're in the Blackwell Ox," I thought, as I couldn't quite see the car park for the trees. Then I realised they would all be flying at Captain Cook's Monument because the wind was now southwesterly.

Over Stokesley the view of the Tees estuary was magnificent: you wouldn't imagine such a densely populated area and chemical refining complex could look so spectacular, but the sun shining on the numerous white storage tanks and cooling towers made sharp relief with the green and golden brown flatlands, the hills and the dark moors.

## A Monumental Cook Up

Reaching Great Ayton I had at last found a route into the moors. I reached my best height directly over Captain Cook's Monument at 6,100ft ASL, but still saw no other hang gliders. As I worked my way across to the southeast, making Whitby a real possibility, I was about to make a significant error.

My third best flight in the National XC League was 25 miles from Carlton Bank to Whitby with the same wind direction, so, 40 miles from Wether Fell, I was now covering the same ground as I had a few weeks before.

Relaxed in the knowledge that it would be easy to reach Whitby or even Scarborough, I hastily chose to make a bid for the next short cloud street. As I approached, I realised it was

an old formation in a state of advanced decay, its shadow being riddled with holes. Having lost much height, I decided to fly along the decaying cloud rather than try for another.

## Sailing

I passed just north of Castleton in Eskdale, a particularly attractive green valley carved out of the dark brown moors, with the Esk Valley railway winding from village to village.

My glide took me along the A171 Guisborough to Whitby road. Flying mainly over shadow from the decaying cloud, and without a whimper from my vario, I estimated my landing as barely beyond Scaling reservoir, on which a fair collection of yachts was sailing.

Very disappointed in not having reached Whitby I had crossed the reservoir with about 900ft to spare when my vario released a cautious warble! Holding my breath, I circled the area and was just able to maintain height.

Five miles and 20 minutes later I was happy again, one mile out to sea and 5,000ft above Runswick Bay. With Whitby a further six miles along the coast but at ninety degrees to the wind, I decided to leave the thermal while still 1,000ft below cloudbase.

## The Abbey Habit

I started to crab along the coast towards the southeast in the fairly brisk south westerly breeze. It didn't quite seem right: There I was, apparently soaring the cliffs, but pointing in the wrong direction — inland instead of out to sea!

Having been in an almost identical situation on the previous flight, when I had landed near the abbey, I estimated I could just about reach Whitby.

After the long glide along the coast, I eventually came down from the cold on the other side of the estuary, on a piece of nicely mown grass, between two spotlights beside the north transept of St.Hilda's Abbey. A couple of rather amused visitors, after interrogating me, directed me towards the kiosk where the Abbey custodian was collecting the entrance fees.

## A Royal Pardon

He didn't mind me landing there but it was going to cost me 40p! He invited me in for a debriefing and, as I warmed my hands round a hot cup of tea, he relented: after all Prince Charles didn't pay when he came swooping down in his helicopter to land on the very same piece of grass, a couple of years before.

I was also allowed one rather delicate reverse charge phone call to John Bowman which sprang the efficient retrieval crew into action. John delivered me and my glider to the check-point, where Harry Hodgson feasted me then ferried me back to Wether Fell and my patiently awaiting car.

Ewart Jones of Crickhowell recently took delivery of the 1200th Super scorpion to come out of the Hiway factory. Super scorpion was originally released in May 1978 and has remained virtually unchanged since that time.

Production of Super scorpion has continued for so long because the glider has proven itself the ideal choice for the recreational pilot. You've probably noticed that the sweet and vice-free handling of the Super scorpion has become the standard by which other gliders are judged.

So if you're thinking of buying a glider for the first time or just interested in flying for fun, why not choose a Super scorpion.

## 1200 up on a Super scorpion!



Hiway Hang Gliders Limited  
Sunny Hill Tredegar Gwent NP23 4XP  
Telephone Tredegar (0475251432)

**Hiway**

# Fighting fund deficit

BHGA treasurer Percy Moss has given further details of the association's financial position.

He reassured members that the association is not overspending, his only fear is about the Fighting Fund deficit which over two years has grown to £1,234.

Percy says "Many clubs and individual members have requested a statement on the position of this very important fund. Over the past few years the cost of fighting for the right to fly has been very expensive".

The latest figures, which include estimated proportions of actual bills from association solicitors which have not been broken down, are:

## 1981 Expenditure

|             |        |
|-------------|--------|
| Mill Hill   | £180   |
| Felixstowe  | £100   |
| Dunstable   | £734   |
| Beachy Head | £149   |
|             | £1,163 |

**Income** — £1,006

**Deficit** — £157

## 1982 (to date)

|             |        |
|-------------|--------|
| Dunstable   | £1,133 |
| Stinchcombe | £94    |
| Mill Hill   | £475   |

**Income** — £616

**Deficit** — £1,086

**Deficit over two years** — £1,234

The statement is for legal fees only, all other expenses are paid for from general funds.

Percy says "Please help to fight for the right to fly of every member. If each member paid only 35p each this deficit would be cleared. So how about it?"

He added "The Association is not overspending. Your treasurer has from time to time to keep the council in order as far as financial matters are concerned.

"In fact the BHGA is in the best financial position it has ever been. I was only pointing out to our enthusiastic council that all things have to be paid for"

## FLIGHT BRIEFS

### Two Vortex sizes

A report in September Wings! stated that the Chargus Vortex had been produced only in one size.

While this is strictly correct, it should be pointed out that the Vortex 110 and 120 sport 110 degree and 120 degree nose angles respectively.

The 120 is known as the better handling glider, the 110 being more prone to unexpected tipstalling.

### Registration idea rejected

Opinions are turning against glider registration.

Latest to reject the idea are the Welsh Hang Gliding Federation and the Pennine Club who have reversed their earlier stance because they felt they were misled into seeing registration as a fait accompli.

### Travel man

The telephone number of Lindsay Ruddock who is acting as Foreign Flying co-ordinator is Egham (07843) 34740 and not as printed in last month's Wings!

### Club contacts

New contacts for the South West Wales Hang Gliding Club are: Secretary — Philip Brown, telephone Port Talbot 887677 and John Evans, telephone Ferryside 229.

### Glider trial

Southdown's new glider — the Sapphire — which includes an internal control system, has been seen on tethered trial at Devil's Dyke.

## Launch of new mag delayed

The launch of the new Micro-flight and Hang Glider magazine, originally scheduled for last June, has been postponed until "sometime next year".

Attempts to contact editor Tony Gibbs have proved unsuccessful but a statement says the delay is due to "publishing problems".

Mr. Gibbs is also managing director of Raven Leisure Industries which manufactures the Raven microlight from its Haverhill, Suffolk, base. Correspondence from Raven, interestingly enough, is signed Tony Gibbs, while magazine business is signed Anthony Gibbs (A.T.Gibbs).

# Hobson's choice...

THE unluckiest pilot of 1982 must be Graham Hobson. The competition season got off to a lousy start for him when he blew first place and £750 worth of prize money in the Foster's Open by simply forgetting to cross the finish line in the first task.

It ended with him coming second to his old rival Bob Calvert in the League — all fair and square that one. But in the European Championships earlier that month poor Graham was again "cheated".

It's well known that Michael Carnet lost 1,500 points when his camera failed to work thus denying him the proof required by the rules to demonstrate he had completed the task everyone knew he had.

What is not so well known is the result of the calculation Michael

Photograph by Bettina Gray



Graham Hobson:

Luck turns against him

has done since... he has worked out that if his flight had counted he would have placed first in his pool instead of Tony Hughes. And if Tony had been placed second, it would have cost him enough points to have allowed Graham to creep into the top spot.

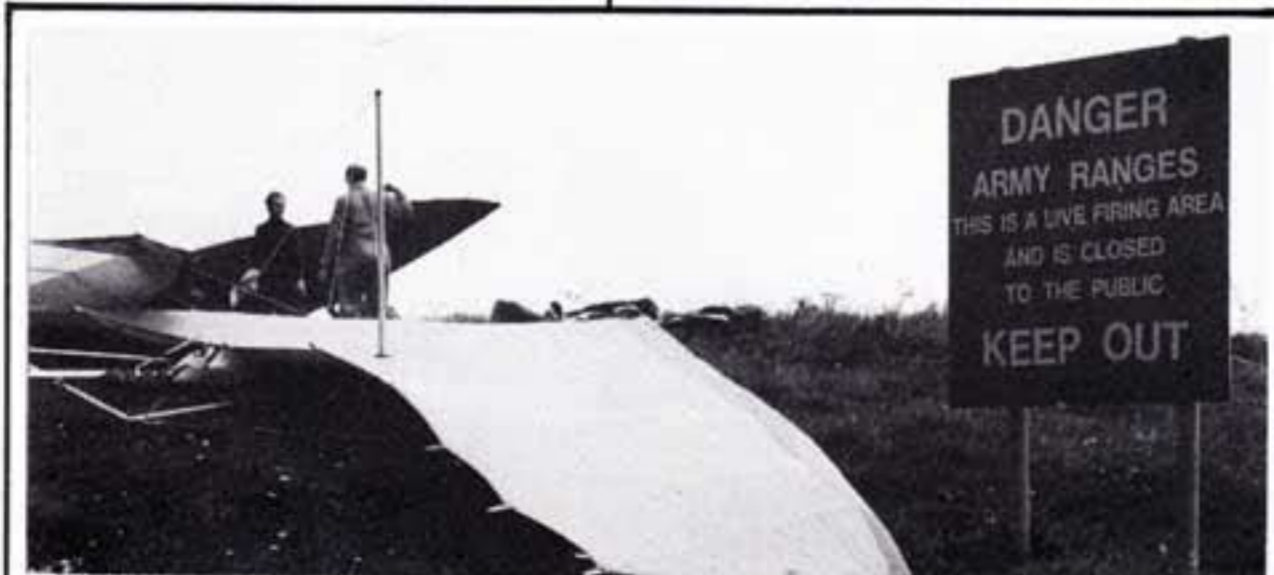
But Graham's most galling defeat this year was in the Baildon International Allcomers Sod L/D Classic where Robert Bailey won by turning up at dusk to better Hobson's distance.

All of which has prompted Graham and his henchman John Higham to plot revenge most dastardly.

This month sees the debut of Lancashire's answer to the Sod — the Lobden Lob. The rules will be simple, says Graham: "Simple L/D. Pennine members will get four goes and Dales members one each."

No, you can't keep a good man down, as Graham so ably proved when I interviewed him for the Manchester Evening News... "I believe I am the best hang glider pilot in the world," he said with that deadly seriousness we all love him for.

Stan Abbott



BHGA and Avon club representatives are meeting the National Trust to discuss any changes necessary to maintain safety at the Trust-owned site at Mere, Wiltshire, also home of an Army firing range. And this picture by Steve Thompson illustrates the problem.

National Sites Officer David

Bedding urges fliers to make contact with Avon officials before making the trip to Mere to check whether the firing range will be in use.

"It is clearly very disappointing if you have driven a long way and the wind is southerly to find all flying suspended because the range is in use," said David.

# Theft: whose risk is it?

SINCE the beginning of 1978, there have been five theft claims for hang gliders on which a total of £3,244 was paid.

More than half of that was paid in respect of a powered hang glider, the property of a well-known and much respected member of the hang gliding community.

During this past immediate year we have issued 239 Hang Glider Certificates — but if we take the year to end of April, then 266 certificates were issued during that year, with a total of premiums paid of £5,800 and claims totalling £5,986 paid. It looks like this.

| Certs      | Premiums Paid | No        | Claims Paid |
|------------|---------------|-----------|-------------|
| 266        | £5,800        | 16        | £5,986      |
| Damage No. | Claims Cost   | Theft No. | Claims Cost |
| 73         | £3,862        | 3         | £3,174      |

Bearing in mind that underwriters will not continue to go on making a loss we do have to ensure that the losses do not become so great that they increase their premiums.

Far and away the largest category of claims has been wind damage to hang gliders. There have been 15 over the last four years, and you will know that damage to a hang glider by wind — or resulting from flight of any sort — whether flight be voluntary or involuntary, is excluded.

When the policy was first taken out, Council took the view that a hang glider left, and not picketed, was a lethal instrument and it was thoroughly bad airmanship to leave any glider so that, if weather conditions changed, it might prove an embarrassment or danger to other enthusiasts or members of the public.

It was therefore recommended to underwriters that flight, voluntary, or involuntary, be excluded

from the outset. They, however, thought that it should be included and have paid claims in the past. They will not pay claims in future, because none of us could condone the leaving of gliders in a state such that they might endanger others. (John Hudson provides very inexpensive picket stakes for just that purpose.) Over £2,000 was paid out in respect of gliders damaged by the wind.

Are hang glider thefts on the increase? Information from BHGA insurance broker Reggie Spooner suggests the answer is "yes". Here Reggie looks at the figures and examines the argument that it is unreasonable to exclude the theft of gliders from unattended vehicles from policy cover.

The next major category is gliders damaged on roof racks and there have been seven — one where three gliders were severely damaged. In two accidents, gliders fell off roof racks. Twice a car has run over a hang glider. A child swung on a glider on a roof rack and damaged it!

In addition to the gliders blown away by the wind, two insured gliders were hit by other gliders being blown by the wind. A ladder fell on a glider. A glider was severely damaged on a cable car, and perhaps best of all — and I trust Derek Bond will not mind my mentioning it — a cow speared one of his

hang gliders on its horns and, having got free, trampled on it.

I should perhaps for a moment dwell on correspondence from two or three people who have argued that the present exclusion, whereby a claim following theft from an unattended vehicle will not be paid — should be deleted from the policy.

There is obviously a case for it and bearing in mind the principle that we have to be self-supporting — that is we can not get more money out of underwriters than we put in — then we have to relate the total income in premiums paid to the possible losses.

We can meet the need one of two ways.

- Establish our own scheme — all put our money in, receive claims and pay out on them, including theft from unattended vehicles.
- Ask underwriters to provide theft cover from unattended vehicles and accept their premiums — perhaps requiring the person who has his/her glider stolen from an unattended vehicle to pay 25 per cent of any claim.

The correspondence I received includes this suggested clause from R.A.L. Craig, of Edinburgh.

*"I shall take such reasonable precautions as are both practicable and typical of the majority of other hang glider owners to ensure that my hang glider and equipment are not unduly exposed to risk of theft or any other damage."*

*"The insurers accept that 'safe' accommodation for hang gliders is frequently difficult to arrange, particularly on a short term basis, and that the hang glider and equipment are likely to be exposed to a proportionally greater set of risks when away from their normal base, including without prejudice to the generality thereof during pre- and post-flying recreation and retrieve. Participation in competitions will not invalidate or reduce hang glider and equipment all risks cover, although it will affect any personal insurance which may be held."*

*"These qualifications do not affect the exclusion of flight risks from cover."*

Reggie Spooner

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Thousands upon thousands of airborne hours steadily adding up to the most reassuring contribution to

Microlight Aviation. The standard has been set. There can be no substitute.

After all, for pure sport flying could you settle for any aircraft less proven than **Puma**?



#### For Demonstration or Tuition

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# Back to school!

With BHGA Training Officer BOB HARRISON

*No.4. Schools and training today*

MANY members have asked me about schools and although they have probably gone through the "schools system" they often wonder how their old school compares with others.

They have also wanted to know who is involved, what the training is like and of course which school to recommend to newcomers.

The latter is a difficult thing to do as I never have, nor ever will, push one school at the expense of another. My job is not to recommend which one school is the best, but to ensure that all of our 20-plus registered schools meet with commonsense standards and requirements.

□ □ □

Each training establishment is an alive organisation with its own personality, it is a kind of animal which is totally different compared to the others of its race. It only stands to reason, therefore, that a school may suit one student but not another.

Bearing these points in mind but also wanting to give members advice, Stan and myself have asked all the BHGA-approved schools to tell a little bit about themselves.

The following are from those that have replied — They speak for themselves.

What I will say, however, is that although not yet perfect, standards have risen over the years and like flying at club level, training is the safest it's ever been (I say this with both hands touching a large piece of wood).

With the help of new council member for training Dave Clayton and with close consultation with schools and instructors I foresee us ironing out some of the current problems.

□ □ □

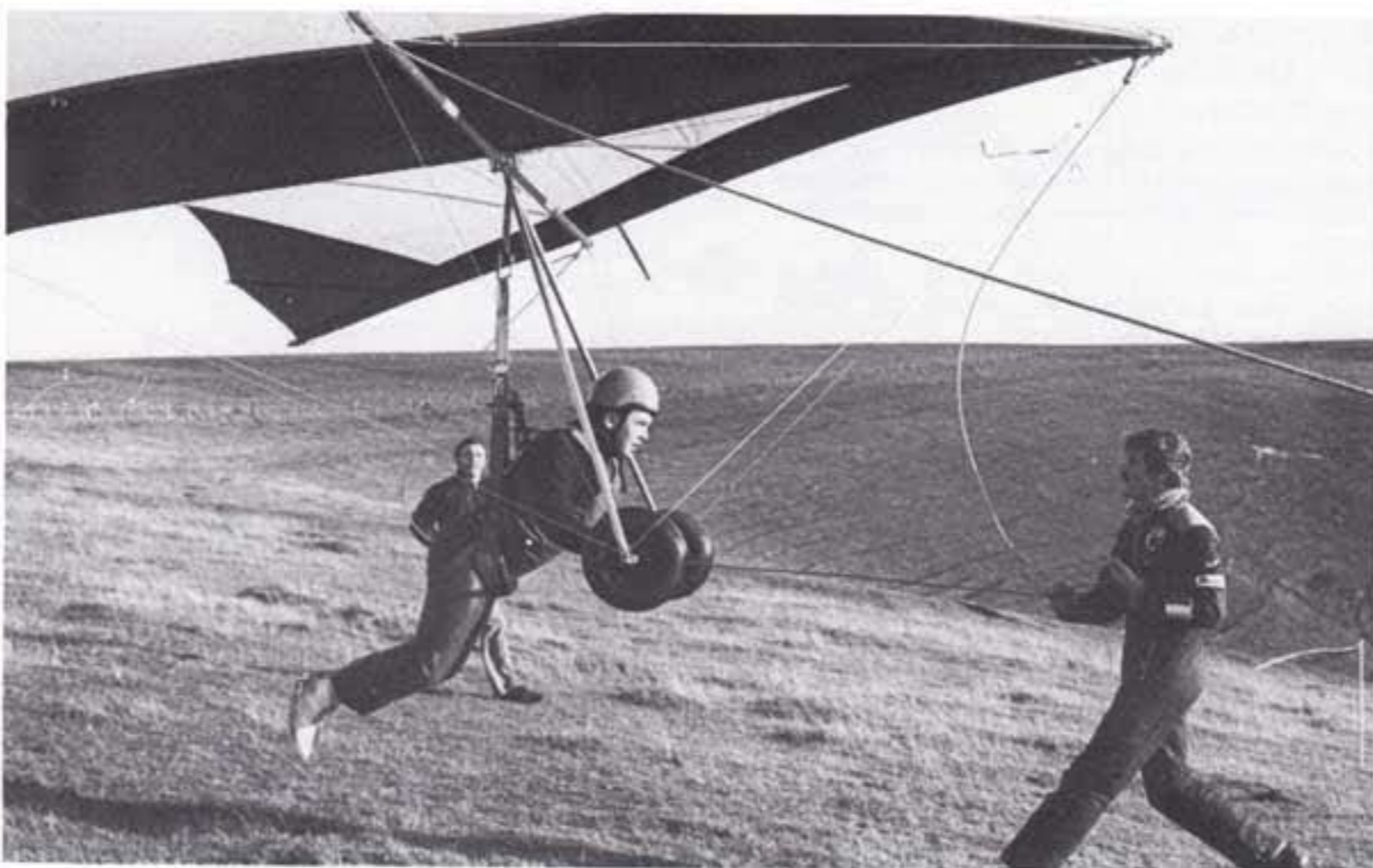
Schools are our "shop windows", they are important organisations and we (The BHGA and schools) all share the same interests. When I first became involved with BHGA, I couldn't believe the bad feeling and undesirable undercurrents that existed between schools and clubs.

It gives me so much pleasure now to see that instead of fighting, some schools are now associated with member clubs, or are properly organising their own.

This responsible attitude can only mean one thing: The newcomer, the student, OUR FUTURE is being properly catered for.

We still have a long way to go. It takes more than a six-day course to make a pilot — it takes years. Not years of simply being a club member but years of accumulating HOURS OF AIRTIME, EXPERIENCE and of sharing knowledge.

BHGA schools start the learning process with formalised training and in the past this has stopped once the student leaves the school. Several clubs continue with some



Training on the Wiltshire Downs with CFI Tony Hughes, right

form of training by offering lectures and seminars.

Some experienced pilots will "adopt" new pilots and so provide not a gaping chasm of ignorance for the student to fall into, but a bridge of knowledge to span the chasm until such time that the pilot himself is ready "to go it alone."

□ □ □

I personally believe that the immediate future must concentrate on the continuation of the above processes of combining the different "factions" of the BHGA together.

It is important that each remain independent but there needs to exist strong links between each faction so that amongst other things students/pilots can change from one to another without mishap.

## Turn Page

### Dave Brixton

The Taunton Office has been contacted by a gentleman living near Guildford, who informed us that, for the past nine months or so, he has been besieged by telephone calls from enthusiasts asking for Dave Brixton. The Contacts List for Visiting Fliers published in December '81 gave the incorrect telephone number for Dave Brixton and unfortunately this error has been repeated on the June list.

Please note that Dave Brixton — Sky Surfing Club — is contactable, on Guildford 233153. Many thanks Mr. Collingwood for your patience and good humour. Please accept our apologies and perhaps some peace and quiet from now on.

Ruth Kohlman



## NORTHERN HANG GLIDING CENTRE

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Tuition still at 1980 prices!  
Training to P1 standard in 5 days — £86  
Group discounts available

Equipment — made-to-measure COCOON HARNESES. Own flash on apron, optional internal stowage bag. Equivalent harnesses cost over £100. Ours are just £85. Stirrup harnesses to same high quality: £55.

Gliders — We are leading agents for the amazing Goldmarque Gry at £665. FREE delivery up to 60 miles, FREE conversion course and FREE Gyr tee-shirt, gold motif on black, very tasty.

Lots of secondhand bargains available too.

Send SAE for leaflets on any of the above.

All prices quoted are inclusive of VAT.

Schools special

# On the Downs 12 miles from 'smoke'

**FREE Flight Hang Gliding was formed three years ago when two instructors who were then working for other schools felt they could teach more effectively and offer better facilities to students by "going it alone".**

The school was established in Oxted only 12 miles from central London with excellent train and bus connections, because this allows the choice of the maximum number of sites on the North and South Downs, to cope with as large a variety of wind conditions as possible.

Free Flight currently has three full time instructors teaching all year round, who have a total of some 16 years flying experience and eight years teaching experience with hang gliders.

The School has six Hiway Stubby and Harrier gliders to cover a variety of students, from the lightest of ladies to the heavy-weight man. In addition, a number of higher performance gliders are in use for the more advanced student.

Starting with the theory at the school's centre in Oxted the student progresses to ground handling and simulator practice to the first flights with radio assistance. The use of gliders designed specifically for teaching and the careful selection of the best site means the student will learn at the best possible rate.

Tel Biggin Hill 72617 for details

# Fly on the Island!

THE Island is a haven of peace for hang glider pilots looking for somewhere to fly, away from the crowded slopes of the nearby mainland sites.

The Isle of Wight H.G. Club training centre was established last year to bolster club membership which had dropped at one stage to five. Since then we have extended facilities to cater for visitors.

With easy-to-soar hills and cliffs, we have started a series of courses for frustrated pilots striving to "stay up". Transportation and ferry pick-up is included in the fee of £10 a day for the tuition fee. Accommodation comes as cheap as £1.50 a day! I hope more pilots will take advantage of this course next season.

Ab-initio training is given on the gentle slopes of Warren Hill, Little Atherfield farm, an 80' hill facing north to south.

We also have inland sites for the potential thermal pilot. The combination of beautiful scenery, good weather, varied accommodation, and versatility of sites, make this the number one choice for pilots of all categories. The Island is also suited for family holidays. Those not involved with the flying can explore the countryside, beaches and amenities offered to tourists.

We don't believe in spending the first day in the classroom! If the weather is fair, we go out to the slopes and start the practical training on the glider. Early stages of training include simulator training, familiarisation with the glider on ground level, and small hops with tethers attached to the kite. When the instructor feels a pupil is ready for her/his first solo flight, a radio is used for ground-to-air communication.

# Get a higher education!

THAT'S the motto of the Wiltshire hang gliding and microlight centre, owned by Tony Hughes, league flier and member of the National team.

The school has been established one year, although Tony has had plenty of experience at other schools before deciding to use the downland in Wiltshire to teach people from beginner to competition standard.

The structure of a typical beginner course would be theory and films followed by

simulated flight, ground handling, rigging, de-rigging and pre-flight checks and take-off sequence on the first day.

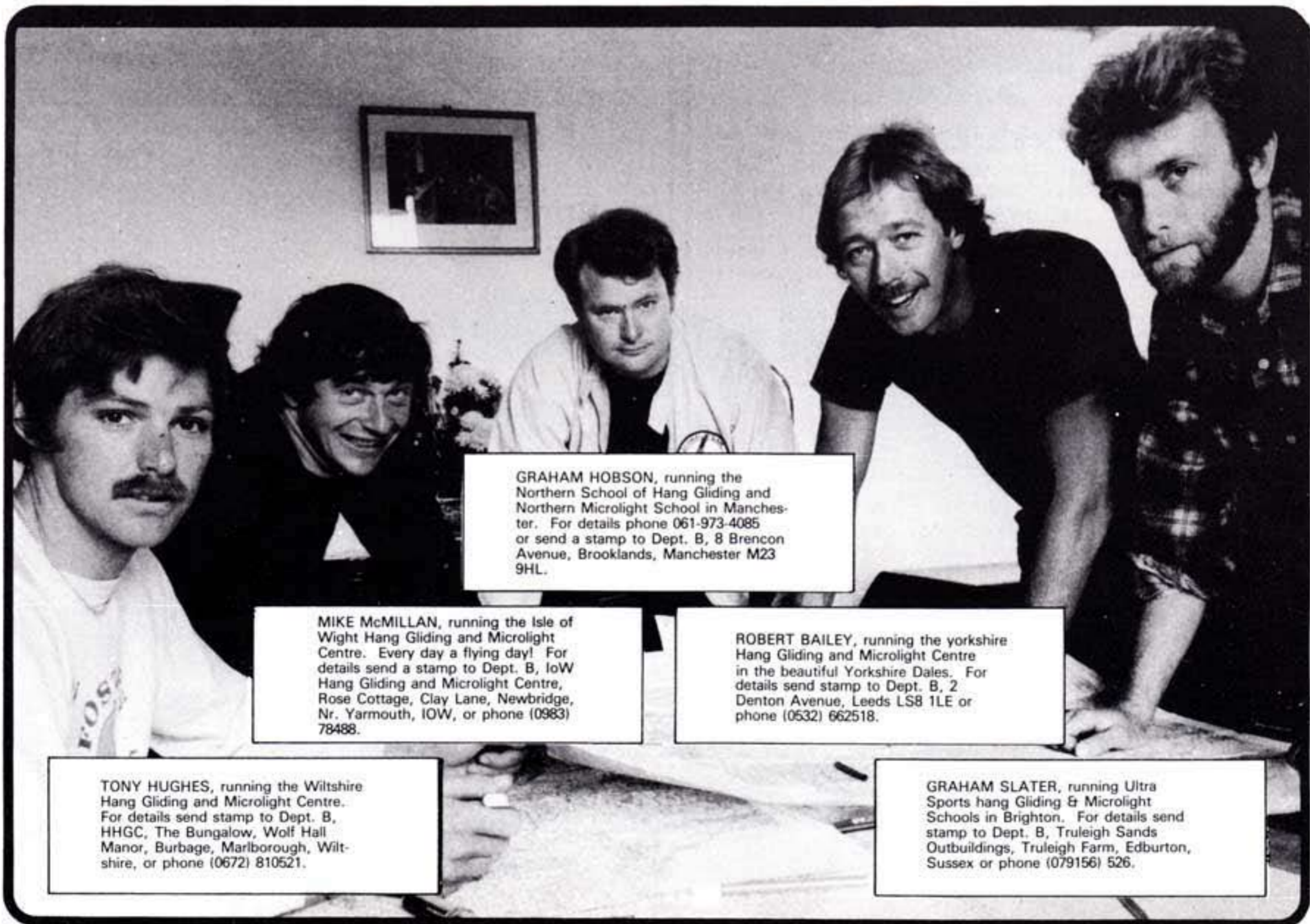
This is re-emphasised on the second and subsequent days which are concerned with practical flying exercises, firstly on the safety of tether lines and secondly, when full control by the student has been established, by reducing the number of tethers until low solos are being achieved.

The philosophy is that of constant progress and improve-

ment, courses can be quite demanding but very satisfying.

The two-day course has a slightly different philosophy even though the first part is the same. The second day is designed more to introduce the student to what might be possible for him or her to achieve, so as well as tether flying the student may be taken to see some more advanced flying on the local Thames Valley hang gliding sites. Inquiries to 170 High Street, Burbage, Marlborough, Wiltshire.

## LET THE 1982 BRITISH AMERICAN CUP TEAM TEACH YOU TO FLY !!!



GRAHAM HOBSON, running the Northern School of Hang Gliding and Northern Microlight School in Manchester. For details phone 061-973-4085 or send a stamp to Dept. B, 8 Brencon Avenue, Brooklands, Manchester M23 9HL.

MIKE McMILLAN, running the Isle of Wight Hang Gliding and Microlight Centre. Every day a flying day! For details send a stamp to Dept. B, IoW Hang Gliding and Microlight Centre, Rose Cottage, Clay Lane, Newbridge, Nr. Yarmouth, IOW, or phone (0983) 78488.

ROBERT BAILEY, running the Yorkshire Hang Gliding and Microlight Centre in the beautiful Yorkshire Dales. For details send stamp to Dept. B, 2 Denton Avenue, Leeds LS8 1LE or phone (0532) 662518.

TONY HUGHES, running the Wiltshire Hang Gliding and Microlight Centre. For details send stamp to Dept. B, HHGC, The Bungalow, Wolf Hall Manor, Burbage, Marlborough, Wiltshire, or phone (0672) 810521.

GRAHAM SLATER, running Ultra Sports Hang Gliding & Microlight Schools in Brighton. For details send stamp to Dept. B, Truleigh Sands Outbuildings, Truleigh Farm, Edburton, Sussex or phone (079156) 526.

Schools special

# New school in SW Wales

A NEW hang gliding school has recently been formed by Rob Hobbs and Mike Tomlinson operating under the name of Gower Aviation.

Based in Swansea, Gower Aviation has affiliated to the South West Wales Club, giving the school access to all the club sites including training rights at Rhossili Down.

The school will be using the latest available, BHGA approved training equipment and techniques, and offer training facilities from ab-initio through to soaring courses, making full use of the many sites within the close proximity of Swansea.

Both instructors are BHGA-registered and have taught in the area for more than three years, offering full training facilities. Gower Aviation are agents for most leading manufacturers, including Hiway, Southdown Sailwings and Solar Wings.

For further details contact: Gower Aviation, 10 Well Field, Killay, Swansea SA2 7NZ or phone Swansea (0792) 290761.

\*\*\*

## Scotland's only school

CAIRNWELL Hang Gliding School, the only one in Scotland is situated in the scenic Grampian range of the eastern Scottish Highlands.

It has been operating for seven years and Gustav Fischnaller, the Chief Flying Instructor pioneered the sport in Scotland in the early 1970s to become Scottish Champion in 1977.

Students receive initial training on ideal sites having virtual 360° suitability for wind direction, while the more advanced pilots can "fly the top" of Cairnwell Mountain itself giving them a 1,600ft. vertical descent to the landing area in the glen below. The area is ridge-soarable in many places and thermic activity can lead to exciting flights.

High standards of safety have been attained by the school due in the main to expert supervision and the use of specifically designed training gliders which fly "low and slow", a requirement for safe, enjoyable progression to greater heights. Our gliders are maintained in our own workshops where students' own kites can be serviced or repaired.

Two and four-day courses are offered, also a Pilot One scheme enabling the student pilot eventually to buy his/her own glider and soar into the blue yonder.

Inquiries should be directed to us at Cairnwell Mountain, Braemar, Aberdeenshire, AB3 5XS.

# 'Safety & Progress' is our motto

THE Welsh Hang Gliding Centre is one of the oldest schools in the UK, started in 1973 by pioneer pilot Gerry Breen who went "full time teacher" in 1976.

For the past five years we have operated from the same premises which have been extended to include a custom-built lecture room, a club and video room, workshop, accessory shop, offices and kitchen.

We believe standards have always been high, earning us an excellent reputation throughout Europe.

The club system we introduced in 1979 has proved more successful with each successive year and we have a consistent membership of over 100, with an ever-growing hardcore of members who now have their own gliders and enjoy club facilities, particularly on non-flyable days.

Our principle of "Safety and Progress" ensures our students learn at the rate they are capable of — a "fast learner" will not be held back, and anyone needing extra attention is given it.

Weather plays such an important part in how long it takes to reach Pilot One level that we prefer a flexible system that enables a person to stay for as long as he wishes, and yet know that the only days to be paid for will be the flyable ones.

Being in the Brecon Beacons Black Mountains area, and so close to the "Valleys", we have a wide range of slopes at our disposal; from the ideal training slope at Sirhowy to the well-known Hay Bluff and Pandy.

We have a site and weather information service, our accessory shop stocks all sorts of clothing, harnesses, karabiners,

books, magazines etc; our kitchen has hot pies and drinks.

A Pilot One course costs approximately £120.00 including three months membership of our club and the BHGA, and the course and payment may be spread over this 3-month period.

Colour brochure and full details can be obtained by writing or telephoning (24 hours) to Welsh Hang Gliding Centre, New Rd., Crickhowell, Powys. 0873-810019.



• BBC's Judith Chalmers in tethered flight with the Welsh HGC.

## Learn with Bailey

BAILEY'S Yorkshire Hang Gliding and Microlight Centre — established for five years — prefers to teach tall blondes but will teach anybody from 16 to 100, male or female, to fly a hang glider or microlight.

We will teach you to go XC or navigate your microlight from Leeds to Scarborough. We stock new and second hand gliders and trikes.

For hang gliding, our main training sites are sunny Baildon moor (Home of the Sod) near Shipley, Windbank, Kettlewell (Britain's first 50-mile site) and Sutton Bank.

Contact 2 Denton Avenue, Leeds LS8 1LE or ring 662518 for further details.

## The first registered school

PEAK Hang Gliding Ltd.: was formed by Malcolm and Pat Hawksworth in 1974, and reorganised as Peak Hang Gliding Ltd, in April 1979 when Allan Hetherington (current CFI) joined the organisation. It was the first training establishment to be registered by the BHGA.

We have four instructors. Many of the techniques used internationally to train hang glider pilots were originally developed by us and our policy is that we must continually develop and improve. To this end we are continuously observing training techniques both in this country and abroad.

Students are taught semi-prone, with heavy reliance on tethered gliding on shallow slopes and tethered soaring in the early stages, followed by ground-to-air radio coaching on shallow slopes. It is our

policy not to allow high flights before the student is competent.

After achieving P1 we encourage our students to join their local club, and to continue their flying education with the club coach.

In addition to being agents for most approved gliders, we also operate a second hand glider brokerage scheme and have complete glider repair and storage facilities together with lecture rooms and recreation rooms at our new base in Leek.

All of our "on the hill" training is done in the Peak

National Park which is situated four miles north of the school. We also offer windsurfing, sailing, riding, climbing, shooting and falconry.

We are the training establishment for 11 university and college clubs in the Midlands and North.

Our school and office address is:- Peak Hang Gliding Ltd., 4, Abbey Units, Macclesfield Road, Leeds, Staffs.

Telephone:- 0538 383659 or 34205. between 09.00 hours and 21.00 hours seven days a week.

### Schools

Classified from p27

SUSSEX COLLEGE OF HANG GLIDING, 196 Queens Rd, Brighton. Teaching Prone and top landing. Power too (on proper airfields). Spares repairs and sales. FLAC Hiway Lightning, Sigma 12 metres £350. Lightweight Mini Floater £575. GYR Marauder, Super Scorps (2 virtually new at £600) etc. SSC wanted part-ex Tel: Brighton 609925/24151 ext. 171.

Bailey's Yorkshire Hang Gliding and Microlight Centre

Hang gliding courses — Dual trike microlight courses — Thermalling and cross-country courses in beautiful Yorkshire  
Details — 2 Denton Avenue, Leeds 8. Tel. 662518

### GOWER AVIATION

hang gliding school offer P.1 and 2-5 day soaring/prone conversion courses based around the famous U.K. soaring site Rhossili Down. With Gower National Park and Swansea City for the family. Best prices for new gliders from main manufacturers Hiway, Goldmarque, Solar, Southdown, etc., buy from us and fly at Rhossili!

Contact 10 Well Field, Killay, Swansea SA2 7NZ (0792) 290761 for brochure and details.

# FLIGHT BRIEFS

## Hughie goes

Hughie McGoven, chairman of the Pennine Hang Gliding Club, has resigned from Flexiform Skysails and sold his share of the company that makes the Striker trike wing and the Skyline intermediate hang glider.

He said he was planning a return to the construction industry and has also been active making video films.

## New home

The new address and phone number of Bob Harrison, BHGA Training Officer, is Porth Mawr, Brecon Road, Crickhowell, Powys, South Wales.

## Rig respray

The BHGA test rig vehicle has been resprayed by Citroen cars and fitted with a sun-shine roof to observe the glider under test, reports Barry Blore.

# Putting flying on the map

by BHGA sites officer David Bedding

THE Ordnance Survey puts a lot of effort into establishing what map users value on maps.

I participate by representing hang gliding at meetings arranged with Ordnance Survey by the Central Council of Physical Recreation.

We have a considerable interest in land maps of course. It goes beyond access to take-off points and landing areas.

## Recovery

For example, maps can help considerably in XC recovery operations. How many times have you wished to have another look from above to help choose a route to a pick-up point?

But our major interest in the land is its effect on vertical components of air



• 'az yer Azur lost its zed?

Picture by Graham Hobson over Bradwell Edge, Peak District

movement. Ridge lift (or sink!), thermal "triggers", and large areas of forest are all important to our flying. It's only through more and more relevant knowledge that hang gliding will continue to progress and good maps are an important source of knowledge.

Air maps are important too, but I'll leave Ted Frater to write about these. I try to afford both and find that relevant detail can be transferred onto a Pathfinder, Outdoor Leisure, or Landranger map. We have a greater interest in land details than those aviationists that operate at high speeds from airfields.

Don't hesitate to contact me if you want a change in Ordnance Survey maps. They do respond to customer demand!

## Atlas fliers

If, after a prang, you need to replace an upright, it would also be wise to inspect the little black spigot that the upright plugs on to at the top. In some cases it has been found that this had also been damaged and a replacement needed.

Graham Hobson

## CAN YOU AFFORD NOT TO INSURE?

The following Personal Accident Insurances are applicable to United Kingdom based BHGA members and are effective throughout Europe. Powered hang-gliding and microlight cover can be included for BHGA members at no extra cost to rated and well qualified pilots.

### 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 | New Premium | Renewal Premium |
|------|----------------|-------------|-----------------|
| D20  | £20 per week   | £15.00      | £12.00          |
| D30  | £30 per week   | £22.50      | £18.00          |
| D40  | £40 per week   | £30.00      | £24.00          |
| D50  | £50 per week   | £37.50      | £30.00          |
| D60  | £60 per week   | £45.00      | £36.00          |

**NOTE:** Benefits are normally paid at end of Disablement period — but in cases of hardship we can normally arrange a cheque each four weeks after benefit starts

For manufacturers, their employees and pilots on development/display flying please add 50% to the above premiums.

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

Give Pilot Rating hours, experience and types to be flown if powered hang-gliding or microlight cover required.

PLEASE GIVE YOUR WIFE'S FULL NAME IF YOU WISH HER NAMED AS BENEFICIARY IN THE EVENT OF YOUR DEATH.

### GLIDER ALL RISKS (GROUND) COVER U.K. ONLY

Policy excludes Flight Accidents but covers every accidental ground risk that we have yet thought of, e.g. Theft, Damage resulting from Car Accident, etc. (Excluding first £20.00 each claim. Includes 30 days in Europe each year.)

|                   |                |                   |                |
|-------------------|----------------|-------------------|----------------|
| GLIDER VALUE £500 | PREMIUM £12.00 | GLIDER VALUE £800 | PREMIUM £18.00 |
| GLIDER VALUE £600 | PREMIUM £14.00 | GLIDER VALUE £900 | PREMIUM £20.00 |

EACH ADDITIONAL £50 VALUE—ADD £1.00 PREMIUM, RATES FOR SYNDICATES CLUBS ETC., ON APPLICATION

Theft from car at night or unattended - now covered up to 75% of value.

### LIFE, ENDOWMENT, HOUSE PURCHASE AND PENSION INSURANCE

Companies are now competing for BHGA business. We have several schemes for BHGA members providing House Purchase, Endowment, Investment and Retirement Insurance, including Pensions - all with the very top flight U.K. companies.

### THERE NEED BE NO PREMIUM LOADING TO COVER THE HANG GLIDING RISK

We have arranged special terms for BHGA Members and we will gladly quote if you will write or telephone, outlining your requirements:

REGGIE SPOONER INSURANCE BROKER FOR THE BHGA, CLIFTON HOUSE, BATH ROAD, COWES, Isle of Wight PO31 7RH. TELEPHONE: COWES (0983) 292305

If your Accident or Glider Certificate does not meet your precise requirements we will gladly refund.

# Looking at aerofoils

GRAHAM HANSON conducted wind tunnel tests on a number of different aerofoil sections as part of his university degree. Here he analyses the results and their implications for hang glider design.

IMPROVING various performance aspects of hang gliders by modifying existing aerofoil sections is feasible but can not readily be achieved without adversely affecting other aspects.

This is the conclusion reached by Graham Hanson and Steve McLaren after wind tunnel tests at Bristol University.

The object of these tests was to make qualitative comparisons of the performance of hang glider aerofoil sections, achieved by a series of wind tunnel tests of two-dimensional models of various sections. Points of interest were:—

1. Maximum lift
2. Minimum glide angle
3. Minimum sinking speed
4. Speed range of performance (glide angle and sinking speed) of comparable magnitude to the maximum performance

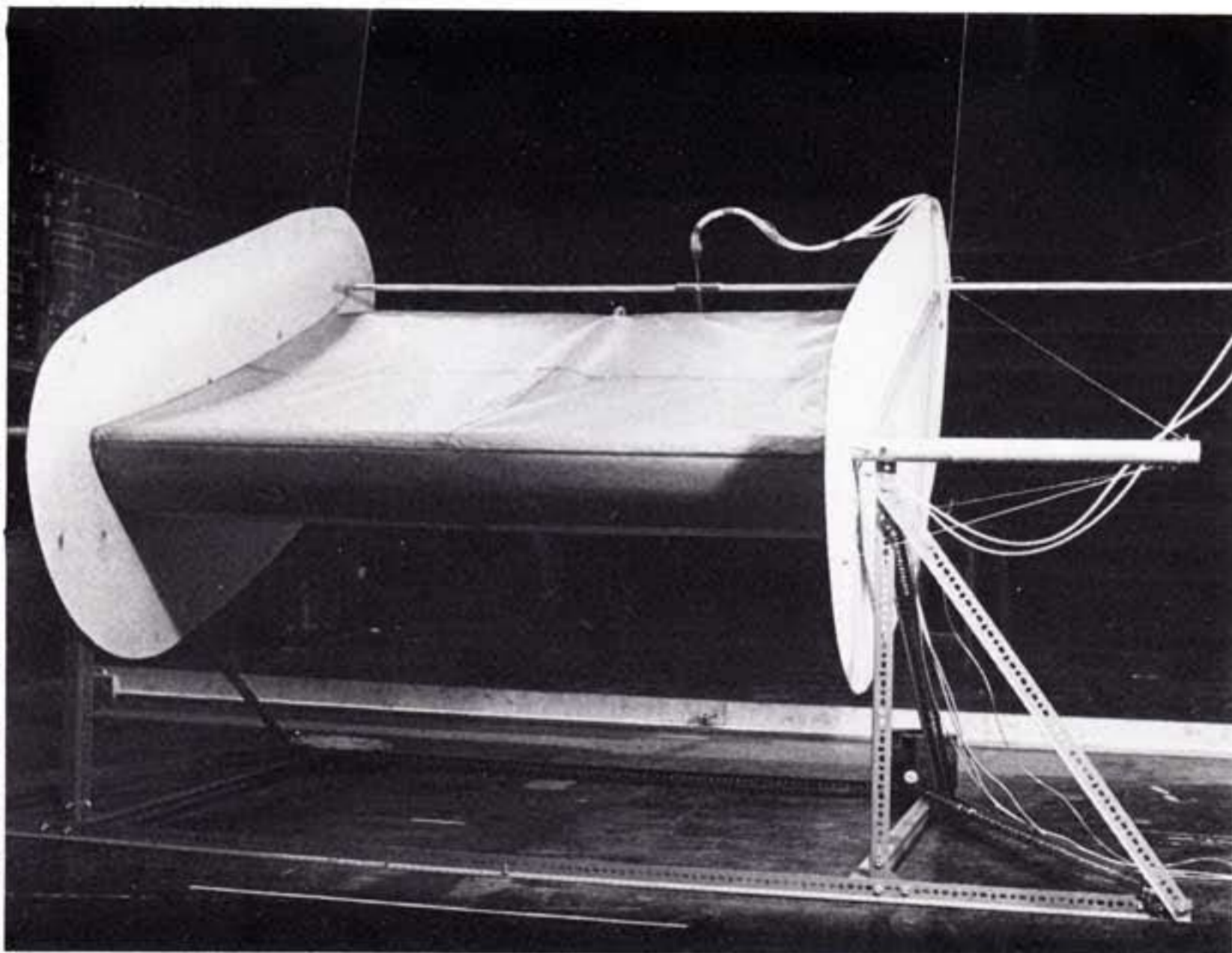
## Models and Tests

The wind tunnel used was the university Aeronautical Engineering Department's 7ft. x 5ft. tunnel, operated at a wind speed of 7 m/s (15 mph).

The models were of 6ft. span and 5ft. chord constructed in the same manner as concealed floating cross-tube gliders.

Aerodynamic characteristics were determined by pressure distribution analysis over the centre chord line of the aerofoil. The end plates were to retain two dimensional flow in this region. Modification of the aerofoil sections was possible by varying the batten shape on both the upper and lower surfaces and by varying the amount of double surface. Seven shapes were tested, each featuring various chambers (x) and thickness-to-chord ratios (t/c) as shown in Fig. 1.

Pressure distribution readings were taken throughout the available incidence range of  $-10^\circ$  to  $+30^\circ$ . The principal areas of interest were around the stall and the maximum lift-to-drag ratios.



An aerofoil ready for testing in the wind tunnel—note that the section is inverted.

## Aerodynamic notation

For the mathematically-minded, the following explains the notation used on the graphs overleaf. Failure to grasp the meaning of the equations should not prevent a general understanding of the findings (Ed).

$$\text{Coefficient of lift} = C_L = \frac{(\text{Lift force})}{\frac{1}{2} \times (\text{Air density}) \times (\text{Velocity})^2 \times (\text{Aerofoil Area})} = \frac{\text{Lift}}{\frac{1}{2} \rho V^2 S}$$

$$\text{So, } C_L \text{ is proportional to } \frac{1}{(\text{Velocity})^2} \text{ or Velocity is proportional to } \frac{1}{\sqrt{C_L}}$$

$$\text{Similarly, } C_D = \frac{\text{Drag}}{\frac{1}{2} \rho V^2 S}$$

These terms are used because they are independent of scale.

$$\text{Referring to Fig. 2, Glide} = \frac{\text{Forward speed} = V}{\text{sinking speed} = W} = \frac{L}{D} = \frac{C_L}{C_D}$$

$$\text{Also, } \frac{1}{\text{sinking speed}} = \frac{L}{W} = \frac{L \times L}{D \times V} \text{ which is proportional to } \frac{C_L \times \sqrt{C_L}}{C_D}$$

$$\text{So, } \frac{1}{\text{sinking speed}} \text{ is proportional to } \frac{C_L^{3/2}}{C_D}$$

So, maximum glide is maximum  $C_L/C_D$  and minimum sinking speed occurs at the maximum  $C_L^{3/2}/C_D$ .

Turn page

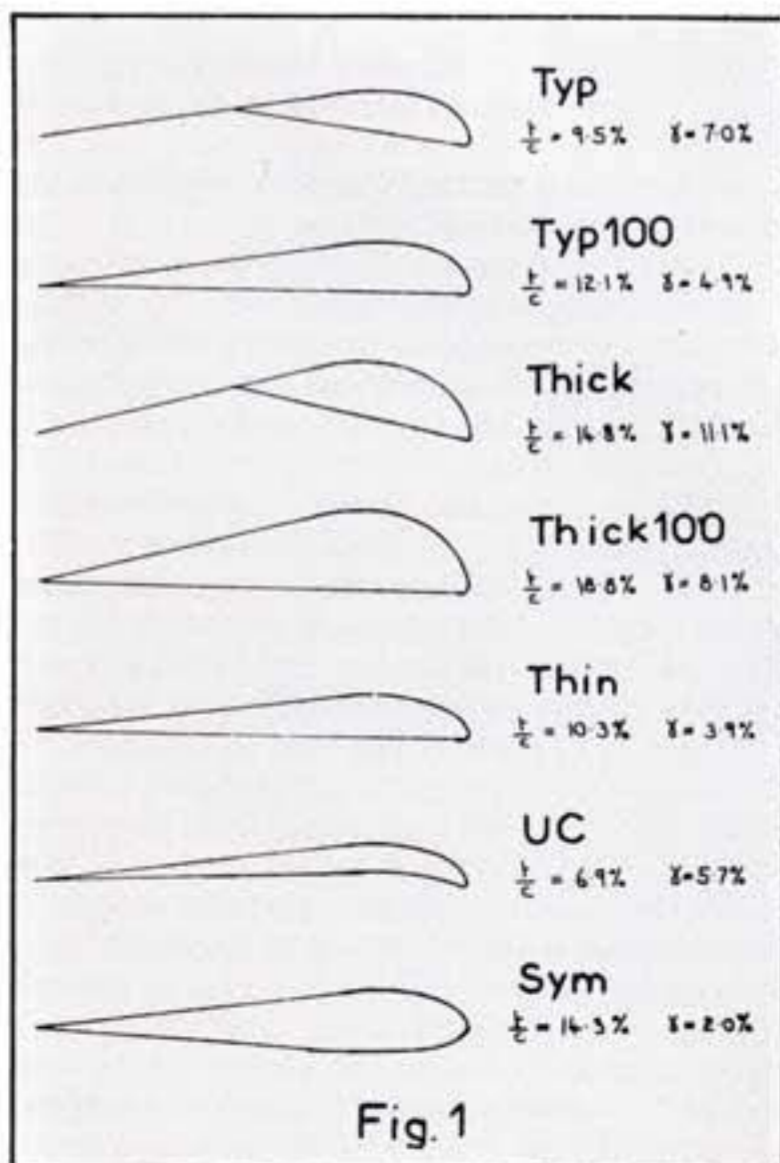
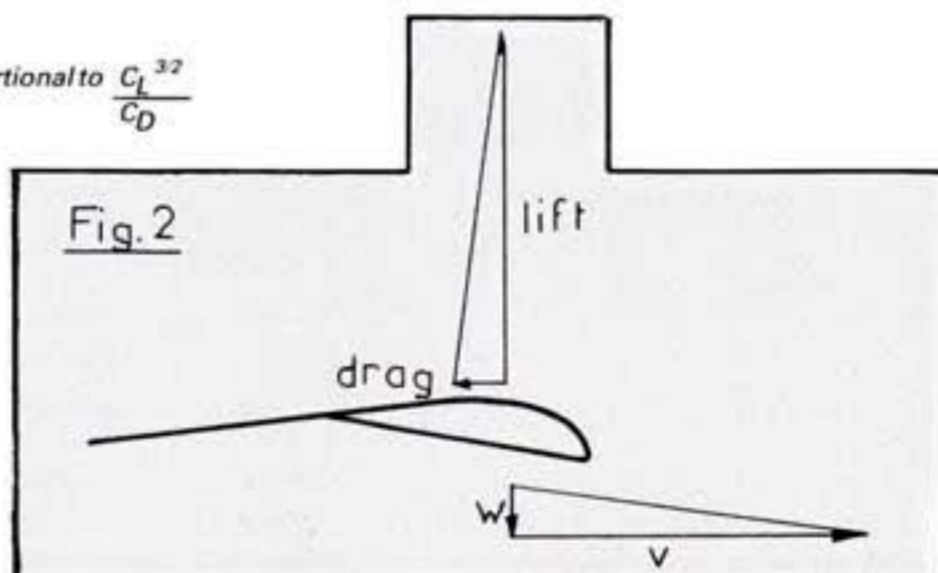


Fig. 1



## Results

Lift and drag coefficient curves against incidence of the chord line were produced for each aerofoil. Fig. 3 shows these curves for the shape *Typ*, a typical fifth generation glider aerofoil section.

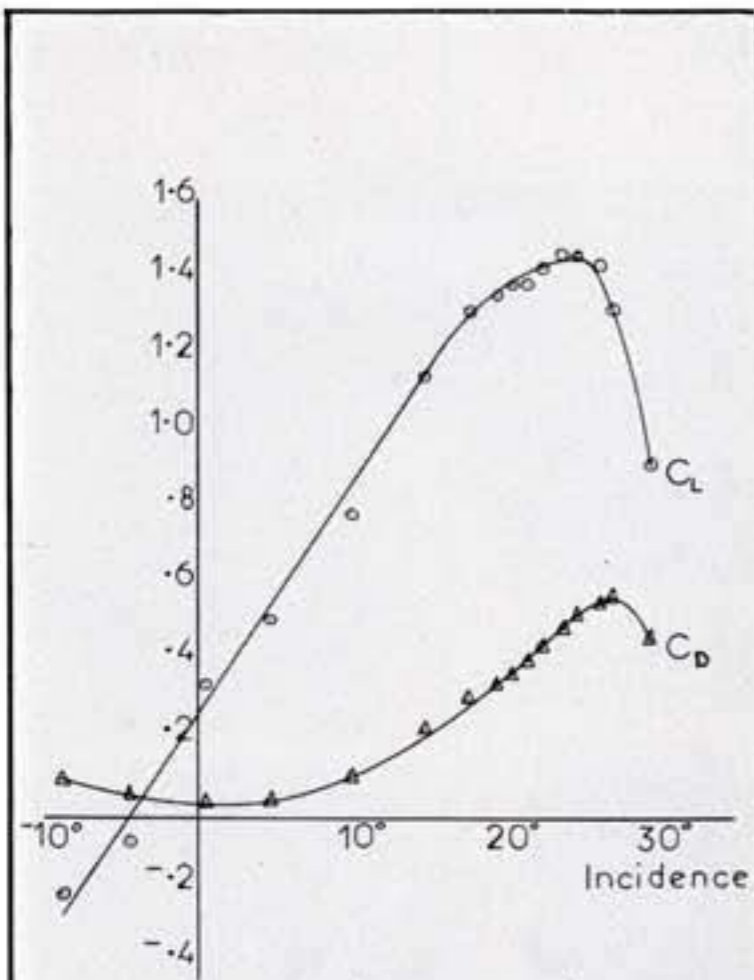


Fig. 3 Force Coefficient Curves - *Typ*

Curves show coefficient of Lift ( $C_L$ ) and coefficient of drag ( $C_D$ ) for a typical fifth generation glider.

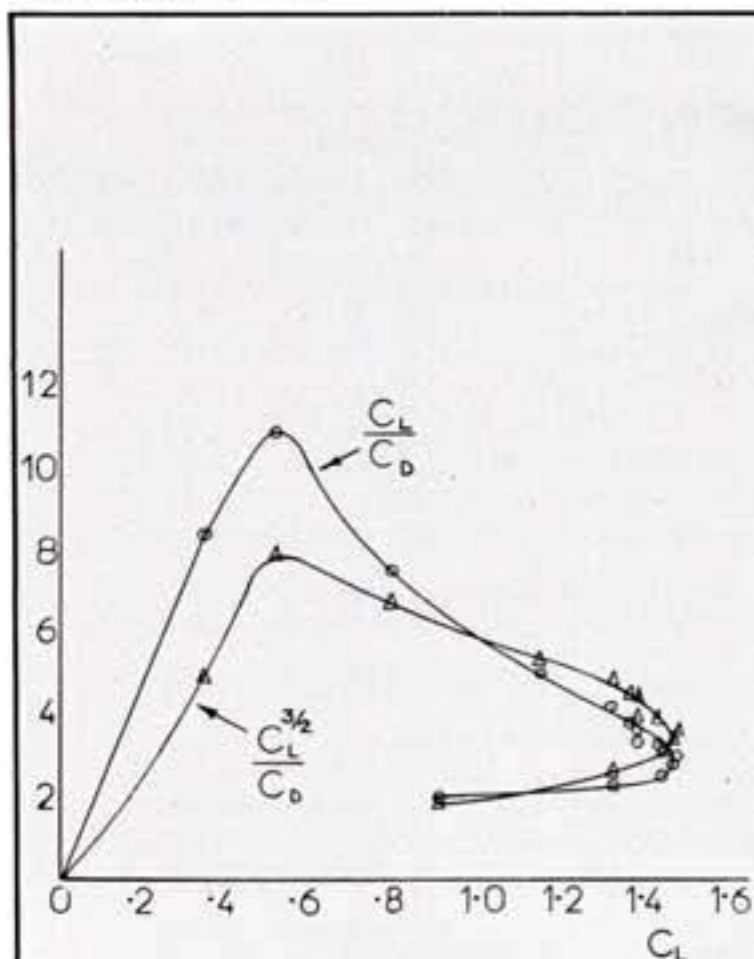


Fig. 4 Aerodynamic Polars - *Typ*

Glide angle and sink rate polars for typical fifth generation glider.

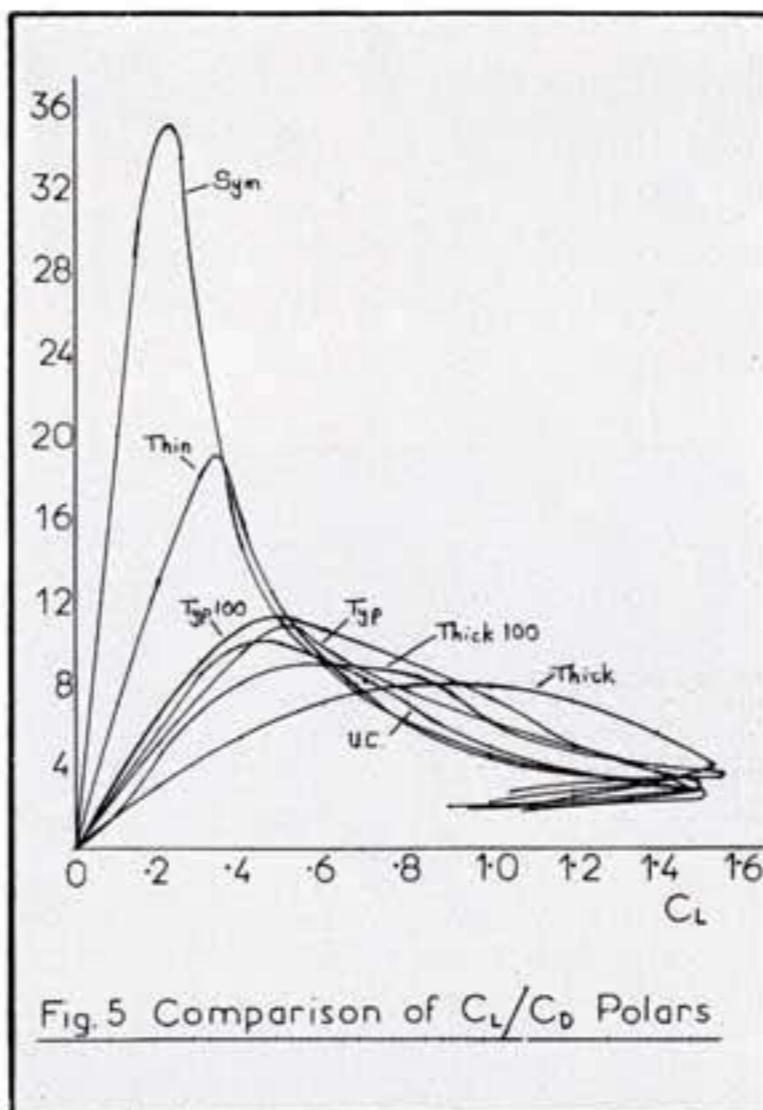


Fig. 5 Comparison of  $C_L/C_D$  Polars

Comparison of the glide polars of the seven aerofoils tested.

## Conclusions

Before stating any of the conclusions drawn it must be pointed out that these tests were only qualitative comparisons and NOT absolute figures.

Everything should be related to the *Typ* bearing in mind that this is representative of the performance of fifth generation gliders.

It has been assumed that any glider using any of these aerofoils would be of similar wing area and weight to present gliders.

Points of interest of the *Typ* characteristic curves include the maximum  $C_L$  lifting coefficient of about 1.5, and the maximum  $L/D$  (max. glide) of 10.9. It can also be seen that the  $C_L^{3/2}/C_D$  decreases gradually between the maximum and the stall, indicating a gradual increase of sinking speed.

This fact will be important when comparing the characteristics of the original and modified aerofoils.

Though the graphs of the aerodynamic characteristics of each aerofoil were drawn separately, the most useful graphs in drawing comparisons are Figs 5 and 6. Firstly, most of the aerofoils have a maximum  $C_L$  of about 1.5, but the two aerofoils designated *Thin* and *Sym* have a maximum  $C_L$  below 1.4. These two shapes are the least cambered of those tested and so this trend is as expected. The variations of  $C_L/C_D$  and  $C_L^{3/2}/C_D$  with  $C_L$  are however much more interesting.

At first sight the graphs show the *Thin* and *Sym* aerofoils to have substantially better performance in both respects, compared to the other five.

The *Sym* aerofoil has a maximum  $L/D$  of 35.3 which is more than three times greater than the original *Typ* aerofoil. Both  $C_L/C_D$  and  $C_L^{3/2}/C_D$  seem generally to increase as the camber of the aerofoil is decreased, as shown in Fig. 7.

It is important to note that the improvements in maximum  $L/D$  and minimum sinking speed are accompanied by a shift of these maxima to a lower  $C_L$ .

In practice this would mean that the glider would be flying faster when at peak performance. Also, it should be noted that at higher  $C_L$  values the performance is in both respects significantly worse than the more cambered aerofoils.

Thus for the lower performance aerofoils, the  $C_L$  range, and hence speed range, over which optimum performance is available, is much larger.

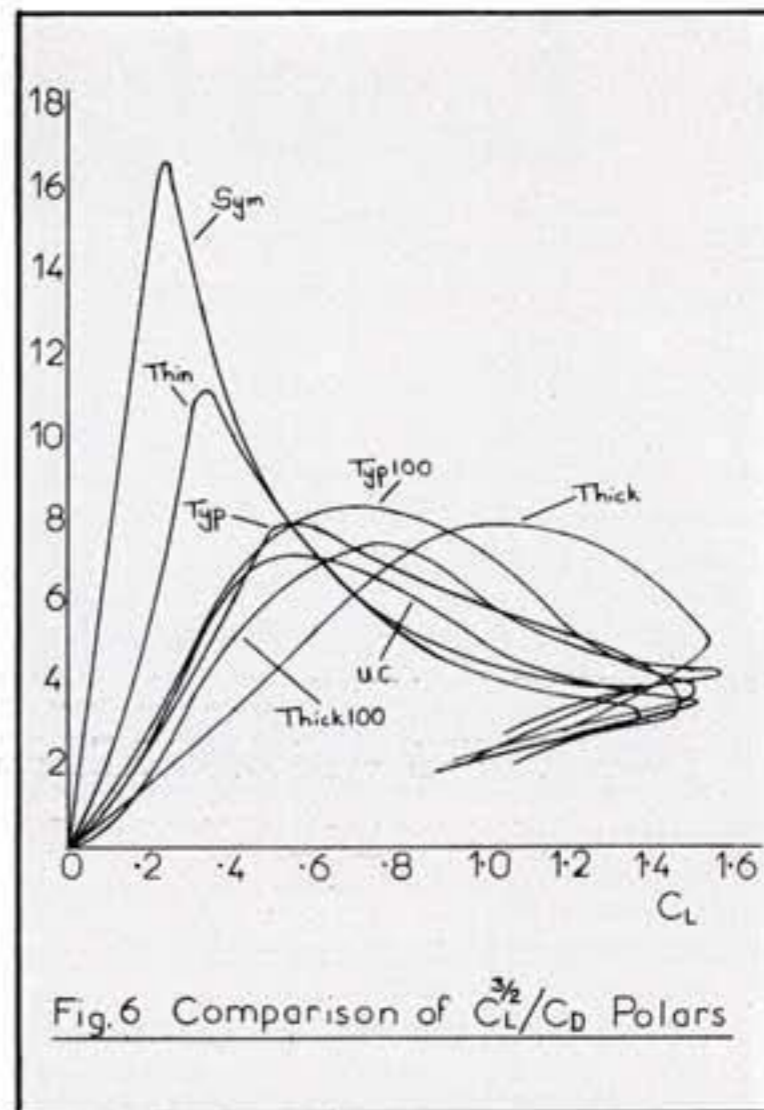


Fig. 6 Comparison of  $C_L^{3/2}/C_D$  Polars

Comparison of the sink rate polars of the seven aerofoils.

For example, compare the  $C_L/C_D$  curves for *Thick* and *Sym*. This is important when considering the practical aspects of flying the glider.

The maximum performance when flying using the *Sym* aerofoil would only be available over a very narrow speed range and this may require a very skilled pilot to use it to its full advantage, especially in turbulent, gusty conditions.

When not flying at this speed, the pilot is likely to be worse off than with a lower performance glider.

At the other extreme, however, the *Thick* aerofoil would be very easy to fly consistently at or around its optimum performance. Also, at lower speeds close to the stall, the pilot is substantially better off than with any of the shapes tested.

Such performance characteristics are comparable to that of older hang gliders, third generation say.

Thus the choice of aerofoil is basically a trade-off between these factors. It is possible to produce an aerofoil of very high peak performance, or something which is far more versatile though lacking in performance, or any combination between the two. The only section which was better than the original *Typ* in all respects was the *Typ 100*.

A significant factor brought to light was the use of under-surface battens.

On the *Typ*, *Typ 100*, *Thick* and *Thick 100*, the bottom surface was not tensioned sufficiently in the spanwise direction by being less tightly held to the end plates compared with the other shapes. Neither did they have bottom surface battens to hold the surface flat.

Thus it is considered that the large difference in the  $C_L/C_D$  and  $C_L^{3/2}/C_D$  curves between the *Thin* and *Typ 100* aerofoils which are essentially the same shape, can be explained in part by the fact that the bottom surface on *Typ 100* tended to become slightly undercambered.

Thus the *Typ 100* would tend to resemble the *UC* aerofoil more closely and this is born out by the similarity of the aerofoil polars for these two shapes.

Therefore, the bottom surface shape is crucial and it is important to maintain it as accurately as possible by the use of battens and spanwise tension.

Unfortunately, insufficient shapes have been tested to be able to isolate each of the important variables. If more shapes could be tested, it would

# Moyes magic spell broken



David Ledford launches on his Sensor

"LOCAL boy" David Ledford from Asheville broke Steve Moyes's three-year domination of the Masters of Hang Gliding Championship in North Carolina.

There were 22 pilots from the USA, Canada and Australia in the seventh international invitational event co-

sponsored by Piedmont Airlines and Grandfather Mountain.

Ledford, who was runner-up in the Masters last year, won all his matches in the seven rounds of one-on-one competition to take home first prize money of \$5,000. He left his nearest competitors Mike Degtoff, Rich Pfeiffer and Moyes - well behind with 5-2 records.

Ledford defeated Pfeiffer twice and Degtoff once. He is known for his daredevil acrobatic flying, and one of his



Dave Ledford with the magnificent Masters trophy

Story Harris Prevost  
Pictures Hugh Morton

narrow escapes is featured in a new film, Winning At Hang Gliding, which was shown at the American Cup in Yorkshire.

In cases of identical won-loss records, such as with Degtoff, Moyes and Pfeiffer, landing points break the tie. A perfect landing is worth two points. Degtoff, a former exhibition team pilot at Grandfather, finished with 12 landing points to capture the runner-up honours and \$1,500, while Moyes and US National champ Pfeiffer



Debbi Renshaw - first woman at the Masters

followed in third and fourth place with eight and six landings points respectively, winning \$1,000 and \$700.

The field included its first lady contestant, Debbi Renshaw of Sylmar, California, and its youngest ever pilot, America cup team member 17-year-old Chris Bulger from Merritt Island, Washington.

Runner-up Mike Degtoff had to fly against higher seeded pilots in all his matches. Meet Director Dennis Pagen, felt the 15th seeded Degtoff may have done the best flying in the tournament.

Rich Pfeiffer hit a tree in a final round crash in his flight against Dave Ledford. He was not hurt, but had he won the round he could have tied Ledford for first place and forced a fly-off.

Bruce Case was not so fortunate: a first round crash next to the landing area left him with a badly sprained

wrist, which hampered his later flights and forced him to withdraw. His game effort to continue competing earned him the David Murchison Sportsmanship Award.

The basic competition tasks, determined by wind conditions, were speed races over a course of pylons set up on the Mountain's highest peaks, and duration flights when there was not enough lift to elevate pilots the 800 ft above launch needed to run the regular course. Three cross-country tasks were set up for the Masters but conditions were unsuitable.

Bad weather delayed the finale four days. Masters officials are studying a possible change in the event to a date with less unstable weather and one which complements existing tournament schedules. There was no British representation at this year's Masters, largely because it clashed with the League Final.

possible to plot  $C_L/C_D$  and  $C_L^{3/2}/C_D$  against camber while keeping thickness, position of maximum thickness, etc. constant.

so the changes made in these tests were large and any trends would have been shown by successive small deviations. The two problems were illustrated by the fact it was impossible to plot a meaningful graph of "Effects of Thickness". Any trends dependant on thickness which may exist have been totally overwhelmed by the other factors changed. However, this would suggest that any effects of thickness are small compared with those due to camber.

There are several useful indications for any further investigations into improvement of hang glider aerofoil section performance. Quite small changes to the section shape can have a quite dramatic effect on the performance, hence fine tuning of a good shape may prove to be far more beneficial than extensive modifications to the sections.

It would be useful to try to isolate the effects of changing camber independant of thickness and vice versa. Also, it would be of interest to vary the camberwise position of maximum thickness and camber, which for most of the sections tested was about 25 per cent chord.

For anybody who is interested, I have a couple copies of the full report available. Graham Morton, 25 Clifton St., Lytham, Lancs. Tel. (Work) 0524 633333, ext. Training dept., Worton.

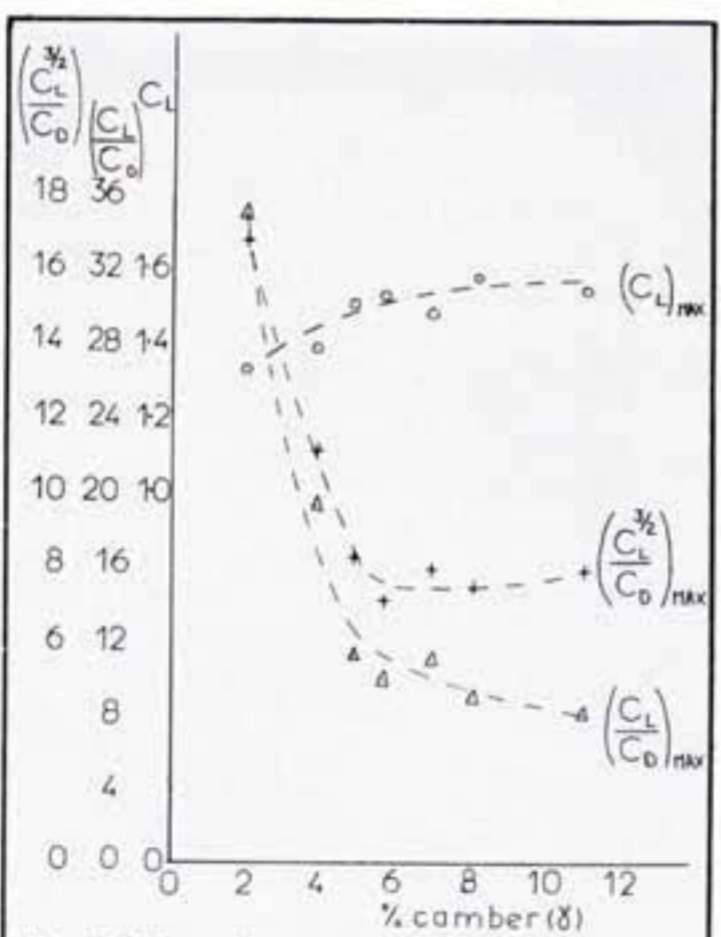


Fig 7 Effect of Camber on Performance

A broad representation of how different performance aspects (max. lift, max. glide and min. sink) vary with camber. Note that because of the variation in thickness-to-chord ratio, the curves are not purely functions of camber.

### Recap of Final Results (the eight finalists):

| Place | Pilot          | Home      | Won-Loss | Landing Points | Winnings |
|-------|----------------|-----------|----------|----------------|----------|
| 1     | Dave Ledford   | USA       | 7-0      | 10             | \$5,070* |
| 2     | Mike Degtoff   | USA       | 5-2      | 12             | \$1,550  |
| 3     | Steve Moyes    | Australia | 5-2      | 8              | \$1,050  |
| 4     | Rich Pfeiffer  | USA       | 5-2      | 6              | \$ 750   |
| 5     | Matt Wagner    | USA       | 4-3      | 12             | \$ 540   |
| 6     | Stu Smith      | USA       | 4-3      | 10             | \$ 340   |
| 7     | Mike Arrambide | USA       | 3-4      | 14             | \$ 30    |
| 8     | Jeff Burnett   | USA       | 3-4      | 8              | \$ 30    |

\*Each pilot received \$10 for each one-on-one round won.

# Towing pair quit

ANDY Brough and Richard Gibbs, who pioneered tow launch hang gliding using a freewheeling tension-operated winch on the back of a vehicle, are giving up the sport.

A report in the Thames Valley

magazine, Volplane, says the pair were so distressed by the death of Brian Wooltorton in a towing accident at Worminghall airfield they had decided to drop hang gliding completely.

Andy had tried to stop the fatal flight at the BHGA-organised towing meet because he considered the fixed line system being used was unsafe. The Brough/Gibbs system was reported in detail in September 1981 Wings! The report on Brian Wooltorton's accident is now completed and will be published soon.

# Paul Cranshaw

PAUL Cranshaw — in a coma since an unexplained accident at Farleton Knott, near Kendal, in July 1981 — has died.

Paul, who lived at Preston, was flying alone when the accident happened and the only witnesses were drivers on the nearby M6.

An inquest will now be held which will examine two main possibilities: a mid-air failure on his Atlas or a black-out, possibly induced by a medical condition.

Alan Fountain, 41, was killed near Hastings test flying the microlight he designed and built himself, with help from former BMAA President Steve Hunt.

Mr. Fountain was self-taught on the machine and — before the accident — the project came under criticism in the local Press from hang glider pilot Peter Harris who said: "Even a very experienced microlight pilot test flying a newly-designed aircraft is

putting his life in his hands."

In another microlight accident, a trainee was killed on an early solo flight on a Chargus Titan in Kent on October 23 when he stalled just after take-off.

# League's loss

Jim Brown and John Fennell mark the first definite resignations from the National League for next year. It is anticipated their places will be filled from the Cross Country League.

Both have fairly heavy business commitments although John aims to wind-dummy for the League and Jim plans to further his marshalling competition direction career. John is in the life assurance business and reckons he can do pilots a good deal. His phone no. is (0793) 28291.

# Pilot murdered



**POLICE in South London are hunting the mystery killer of hang glider pilot Charlie Stimpson.**

Jen Browne, Charlie's common law wife for 11 years, writes:

I know that Charlie (the builder) had a lot of friends in the hang gliding world and that they will be shocked to hear of his murder.

He was killed with a shotgun outside a friend's flat in Crystal Palace on the night of Sunday October 17.

Charlie was a member of the Southern Hang Gliding Club and had been flying for nine years. He always flew seated and lately got mistaken for a beginner.

Charlie bought his first hang glider, a kit-form Grasshopper, in October 1973. He was soon among those enterprising early fliers at Truleigh Hill who ran like hell to

get airborne and just flew straight down.

Over the years he flew at Kössen (first world championships 1975); Rhossili, the Puys de Dome; Ireland and the Yorkshire Dales, as well as all the southern sites.

With his latest kite, a Moyes Mega, Charlie achieved his best ever flying this July at Wether Fell, above Hawes in the Dales. He got into wave for about an hour or more to approximately 4,500ft. above take-off.

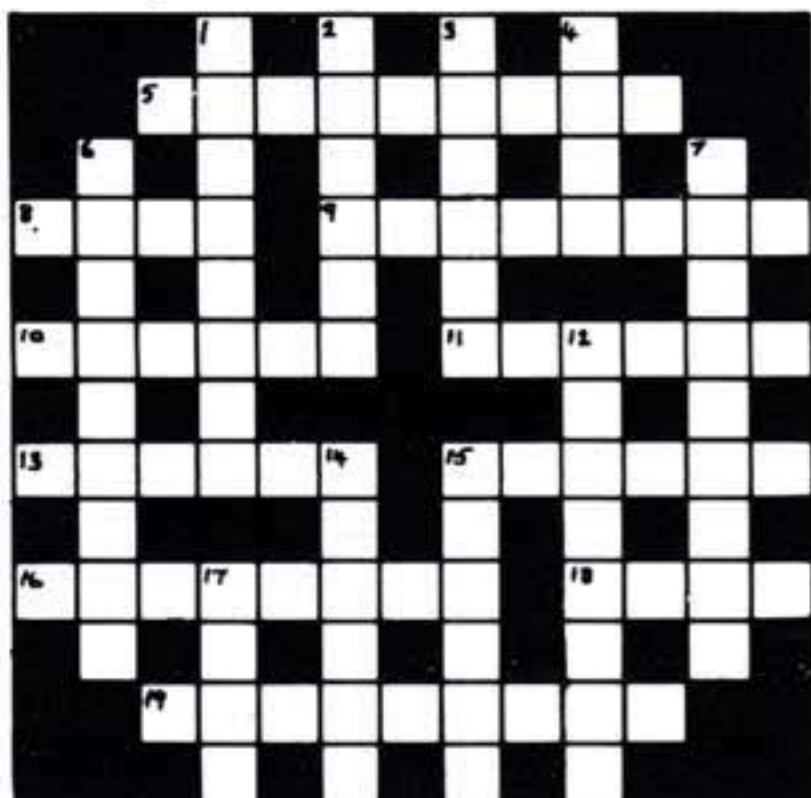
Charlie was very interested in all aspects of aviation. We took our baby daughter, whom Charlie named Stella, to Biggin Hill airshow this May when she was only 12 days old. He wanted her second name to be Banana — typical Charlie!

Picture shows Charlie flying his Grasshopper at Truleigh in 1974. Inset — Charlie and Jen in a gale at Hay Bluff; Charlie and baby Stella.

# Mainair prize crossstube word

## No. 14 by Alicauria

Send your entries by December 17 to: 72 Hartley Avenue, Leeds LS6 2LP. Mainair Sports of Rochdale will forward their catalogue and £10 credit note to the first correct solution selected at random from all entries. There were no correct entries to puzzle No. 12 by Hotair of which the solution is printed here.



## CLUES

### Across

5. It may save your life, though hare might act up (9)
8. Add fours perhaps? (4)
9. In semester nine, there's a blend (8)
10. Derigs, perhaps, though takes off from them (6)
11. What a soarer has from broken thigh and elbow initially (6)
13. Launched and mocked (4,2)
15. Where one washed inside web (as in spiders) (6)
16. Aerial close shave by young lady? (4,4)
18. Rolling Nile on the railway? (4)
19. Flea-ridden pilot who tries to stay up? (9)

### Down

1. If Garth's arrangement looking to the future! (3,5)
2. Confused, so I rave endlessly as they tell me my rate of ascent (6)
3. Roof covering of unhesitating prime minister (6)
4. Rats rising higher than hang gliders ever do! (4)
6. Aim letter scrawled to tell height (9)

7. Hang glider that always strikes the ground? (9)
12. Tune slid badly and caused offence (8)
14. Stiffly formal — a learner — is fundamental (6)
15. Scab is wrong about fundamentals (6)
17. Care about the contest? (4)

## SEPTEMBER SOLUTION

|   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B | R | A | N | D | Y |   | A | F | A | R |   |
| O | B | E |   | F |   | R | E |   |   |   |   |
| O | Z | O | N | E |   | A | V | O | W | S |   |
| M | V | P |   | T |   | N | O |   |   |   |   |
|   | F | E | A | R |   | F | A | C | T | O | R |
| A |   |   |   |   |   | O | L |   |   | T |   |
| F | A | R | H | O | R | I | Z | O | N |   |   |
| F | A | T |   | S |   | V |   | D |   |   |   |
| A | I | S | L | E |   | T | H | E | M | E |   |
| I | P | D |   | I |   | R |   | N |   |   |   |
| R | I | S | E |   |   | S | C | A | T | T | Y |



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TEE SHIRTS  
KARABINERS  
BUNGEEES  
ROD  
BAROGRAPH  
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# Christmas present

"The Yachtsman's Weather Guide" — Ingrid Holford. Published by Ward Lock Limited, London. Price £1.95.



## BOOK REVIEW

The book sets out each subject with bold type headings, with sufficient information so as not to bog down the reader with masses of technical matter. The sections covering thermal generation, the saturated and dry lapse rate are low in content, as expected with a book aimed at Yachtsmen.

Where the book does excel is in the interpretation of weather charts and future weather patterns, for both northern and southern hemispheres.

If like me, you are an avid watcher of weather forecasts both TV and in the papers, this guide will go some way to giving you a better understanding of weather patterns, an important factor in deciding when and where to fly.

Bryan Kirk

Reprinted from Volplane, Thames Valley mag

THE title of the book suggests the main intention of informing yachtsmen, but we both share an interest in the thin layer of air which flows over land and sea.

So the references to coastal conditions still apply especially if you fly coastal sites. The whole subject of meteorology is a complex and often bemusing one, so any attempt to provide a basic knowledge, should be considered.

# In memoriam...



LIMITED edition prints are available of the two illustrations by Terry Ferrer for Old Man's Quest, George Worthington's story of his record-breaking soaring flight, setting the official hang gliding distance world Record of 111 miles.

George Worthington elevated the sport of hang gliding into the professional realm by establishing eleven FAI world records (1981). George wasn't just lucky! Lured to hang gliding from the ranks of record-setting sailplane pilots, he had the soaring background, knowledge of micrometeorology and expertise with FAI paperwork to pioneer attempts at world record cross-country flights in flexwing and rigid wing hang gliders.

Since George's record flights, there hasn't been a summer pass by that didn't bring out hang glider pilots the world over to try to "steal the Old Man's thunder" by breaking one or all of his official world record flights.

In his two pencil drawings,

aviation artist Terry Ferrer has captured the thrill and excitement of soaring flight as well as the youthful gleam in the eyes of George Worthington, now so sadly no longer with us.

Each print is lithographed on fine paper ready for framing. Not only are they signed and numbered by the artist, they are ALSO signed by George Worthington himself! The edition of prints is limited to only two hundred sets. Individual prints are \$7 apiece or \$13 for the set of two — foreign orders please add \$1.00 extra for postage and handling. There is a money back guarantee! The prints can be ordered from: Terry Ferrer — 1442A Walnut Str., Rm. 326, Berkeley, CA 94709.

Terry also accepts commissioned works in the hang gliding, ultralight, sailplane, lightplane realms of aviation. Price quotes for personalised art or free-lance illustrations can be obtained by contacting him at the above address.

# Christmas Presents

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# Christmas present ideas



## Film review

**Aoli, Comet Clones and Pod People**  
A hang gliding video by Rick Masters,  
P.O. Box 3094, Shell Beach, California  
93449.

IT takes a little while to get your mouth round the title of this full length feature video, which undoubtedly reflects the market at which Rick Masters is aiming his creation.

Aoli, Comet Clones and Pod People is unashamedly a "film" for the hang gliding market which makes little compromise to broaden its appeal.

Masters identifies the elegant tailed Aolus, the myriad flexwings of Comet derivation and the steamlined pod that became so despised by the pilots as the lasting memories of cross-country competition flying in the Owens Valley in the summer of 1981.

Masters is an elegant writer who has penned many thousands of words on that majestic place in his own compelling journalese. It has not always been to the liking of people like Tom Kreyche and Don Partridge who, unlike the prosaic Masters, have endeavoured to dwell on the positive aspects of their magnificent flying haven rather than its raw, brute drama.

The journalist/video man makes few concessions to their wishes in this rendering which takes us through the competition season climaxing with the Cross Country Classic itself. We see, nay feel, the sun beating down remorselessly on the backs of the pilots as they climb to launch in the heavy laden trucks that wind for two hours in first gear through the desert rocks then claw their way to launch on a journey that ensures many pilots are half dead by the time the dust devils arrive to wreck their gliders...

But he also shows the Owens through the eyes of Eric Raymond, debarred from contest on his rigid Seedwing, and hence providing an excellent aerial platform from which to watch the Classic unfold.

The whole is interspersed with snatched interviews and Master's own voice-over (he also composed and performed the Owens Valley Sailor theme tune).

The video is a dramatic record of a summer's flying in this ultimate hang gliding venue and, while it does have some shortcomings (chiefly wind noise) it is a commendable effort that will make someone a good Christmas present. At \$59.95 the price is fair, particularly bear-

## A book for Christmas?

**Soaring Hang Gliders** by Ann Welch and Roy Hill,  
Published by John Murray Ltd., London £5.95.

RAPID development has been a constant characteristic of our sport. Year after year the pattern has been that the 'hot ship' glider of last summer has miraculously turned into day's intermediate model.

The literature of the sport is similarly affected. Although this is the first review of "Soaring Hang Gliders" to appear in Wings!, one is aware that it is not quite this year's model.

However, do not let the fact that the book has its origins in the pre-Comet era of flying prevent it from finding its way into the stockings of some deserving pilots this Christmas. "Soaring hang

Gliders" is excellent reading for anyone who is near the beginning of their flying career and intends to take the sport seriously.

The author's vast experience with soaring orthodox cockpit gliders is used to particularly good effect in the chapters concerning cross country flying and reading the weather.

The wisdom imparted in the section on 'landing out' could alone save the reader a pair of bent uprights, thus putting the apparently high price of £5.95 for this extensively illustrated paperback into rather better perspective.

To be strictly critical, the reviewer isn't happy with the assertion that wings develop

lift "by the deflection of the air downwards", and referring to a picture of the Hiway Skytrike in a paragraph describing the dangers inherent in the old 'Soarmaster' type of powered hang glider surely does the whole trike movement less than credit.

Anyway, there's a lot more right with Soaring Hang Gliders than is wrong with it: ignore the lack of pictures of double surface machines and read and re-read the superb cross country chapters this winter - that exercise can't fail to improve your thermal flying as soon as the warmer days return.

Noel Whittall



Rick Masters

ing in mind the risk that video-makers run of having their copyright breached. Be prepared to pay a customs charge of another £3 or so on receipt of your video, though. I did! Specify whether you want Beta or VHS video.

My main artistic criticism of the video, which may seem surprising, is that Masters perhaps does not dwell LONG ENOUGH on creating in the viewer a sense of awe from the sheer SCALE of the setting, as opposed to the more immediate graphic drama of its climate.

I nonetheless look forward to his next offering, The Sky Blue Movie, a film of the life of George Worthington.

Stan Abbott



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# The ideal airtow?



• Skyship 500 as featured in Nov 81 Wings! - the answer to flatland flying? from the ground. It must also be able to be flown around in thermic conditions.

What is this miracle aircraft? Not a Harrier but the Goodyear airship. It is fully controllable in direction, ascent and airspeed. It can be flown in thermic conditions and can carry a considerable payload. There is much that would require thinking through such as where/how do the gliders fly/hang in relationship to the airship at different airspeeds. Is any special structure required?

At what airspeed would the release be made? Could gliders be picked up vertically then brought gradually to full airspeed out behind the airship like a conventional sailplane airtow?

But such things have been overcome in towing and balloon launching for less reward.

Who might fund such research? Goodyear already have a good advertising platform in the airship. But imagine the impact of a Goodyear airship with say half a dozen Goodyear hang gliders (with smoke pots) at air displays, fêtes and functions.

I firmly believe this to be a sound idea with a lot of mileage in it. For hang glider pilots it may be the leap forward enjoyed by sailplane pilots before the war with successful aero-tows. It could turn flat areas of the country into viable flying sites.

NIGEL SUMPTER  
London EC4

## What benefit?

— Editor's note to letter on facing page

• There are a number of factual errors in Dave's letter: the trend in BHGA is certainly towards fewer paid staff, a policy vigorously enacted by Barry Blore. The lion's share of the wages for staff is in any case paid for by the taxpayer through the Sports Council.

The BHGA competitions committee is supported entirely through Sports Council grants and contributions from team members - it takes nothing from general BHGA funds. I make the ratio in September Wings! 15:7.

I do not believe lack of finance has ever been cited as the reason for the test rig's inaction.

The BHGA has a policy to look after the interests of "trike" fliers as distinct from other microlight aviators.

The "trike" market provides a valuable source of advertising revenue (out of all proportion to this "token" editorial coverage).

My own comment is that - while there is undoubtedly room for improvement - the BHGA member gets a hell of a lot for his/her money... a quality magazine at a ludicrously cheap price, insurance and the backing of a team of officers and officials working very hard indeed to represent members' interests on everything from air law to site negotiations to training. Perhaps the main fault lies in not always getting it across to members just how much is, in fact done. - Ed.

Dear Stan, -

Having moved from the Pennines to north London with the prospect of a move to a part of Britain below sea level, the following occurred to me:

Two or three methods of launching without hills have been tried. Winch towing has shown itself at the present state of the art to be capable of being unforgiving of errors. Balloon

drops are generally described as being radical at release and unsuitable for use in thermic conditions. Towing by micro-lights (in the USA?) of which I have only heard third or fourth hand seems to have its problems.

What is needed is an aircraft that can fly very slowly, if not be stationary. i.e. be able to lift a glider gently and safely

## Confused lunacy?

Dear Sir, -

I emigrated to Canada, in April 1981 and one of the first things I did was make contact with a local hang gliding agency. Before I knew what was happening I found myself the proud, although slightly confused owner of an UP Comet.

Three days later on a fine Sunday morning I was all rigged up and ready to go. Take-off conditions were not ideal, with a slight crosswind. After psyching up to the extent that my brain refused to have anything to do with the oncoming lunacy, I picked up my new Comet and stumbled over the edge.

To best describe the flight one might bear in mind these small

details: I hadn't flown for over a year, the glider I'd been used to was an intermediate, I had no experience of this site, I'd never used a cocoon type harness and finally, take-off conditions were not ideal. I can describe the flight in one word - "HORRIBLE."

My obvious conclusion is this: I recall reading in Wings! (in the distant past) about taking off with too many "negatives". For any two of my own personal five, I could have paid a heavy price, I was lucky with all five!

DAVID TEMPLE-MURRAY  
Calgary, Canada.

• Did you make it clear when buying this ADVANCED machine just what your previous experience was? - Ed

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All letters should be sent to the Editor at 72 Hartley Avenue, Leeds LS6 2LP and should be signed and written CLEARLY on one side of the paper only.

## You only need ask!

Dear Stan —

Clubs seem to have been taking a bit of stick lately for not looking after the less experienced flier on club sites, but there are of course always two sides to everything.

If the novice is not prepared to ask for advice, or even worse thinks he doesn't need any, having gained his P1, then his chances of having an accident are bound to increase.

All I can say is that I have never been refused help by anyone, even those who are in the business for a living.

About a year ago I unfortunately had an accident resulting in two months off work and, as everyone knows, getting the bottle back is almost as difficult as making your first flight from the top of the training hill.

I'm pleased to say that I'm back enjoying the sport again and this is thanks to people like Vince Hallam (he even fitted me up with a radio) Ted Salisbury

(for test flying and advice) Phil Cutting (for much encouragement and instruction all given freely once I had asked) and of course members of Dover and Folkstone Hang Gliding Club.

The point I'm making is that I was unknown to all of them, so you must ask because they don't know everyone and they don't laugh at the most basic questions.

In response to Vince's letter, What is the Cure, it does seem to me that the BHGA scheme of stickers to identify paid-up members should be extended by clubs to identify their own members and visitors.

It would be particularly helpful to new members if the sticker gave the name, pilot rating and any position of responsibility held (coach, site officer etc.).

If this is properly enforced there would be some control over those who break national or local rules.

Those not wishing to take part in the scheme — which after all is for our own benefit — could find their own private sites.

DAVE WHYMARK,  
Brentwood, Essex.

## What benefit do we get?

Dear Stan —

I have been an assistant instructor for the last two summers therefore my views may be biased towards the post — P1 and new club flier.

An overheard remark at a recent club meeting and the September Wings! (Vince Hallam's letter, in particular) have finally prompted me to put pen to paper.

The overheard remark ran something like this: new club member to friend, "What do we get out of joining the BHGA?" the reply was, "Not a lot, insurance cover and Wings!".

It appears to me that a large proportion of potential BHGA and local club members, are becoming disillusioned with what the BHGA is doing for them and in consequence don't bother to join the BHGA or their local club. Two observations lead me to this conclusion:

1) The BHGA council takes ages to get anything done and  
2) the BHGA's main area of interest seems to be in supporting the activities of its league and competition fliers.

To take point 1), the BHGA council appears to be growing like topsy: we have officers for this, that and the other.

Finance, or rather lack of it, is often cited as the cause of delays, witness the development of the long overdue test rig; could it be that all our subs are going on paying the

In the September issue of Wings! Vince Hallam, Safety Officer for the Southern H.G.C. asked what the answer was to stagnating membership. Here is a selection of replies.

## The Southern club replies

Dear Stan —

The impression Vince Hallam's letter in the September Wings! gave of the Southern h.g. Club is one of a lot of drunken cowboys who have a complete disregard for BHGA and club rules.

Although a lot of his statements are based on truth, let's put it in perspective. Vince says that 70 per cent of the people who fly SHGC sites are not members — how does he know? He is rarely on the sites at weekends as he is usually working.

The majority of weekends I am responsible for checking that fliers are members and collecting day memberships (£1.00) from visiting fliers. I have no problems collecting money from visitors, although there are one or two southern fliers who refuse to pay — certainly not 70 per cent.

Club membership has dropped from a high of 250 to 100 this year, which is more a reflection of weather conditions — it's the worst year's flying I have had on the South Downs since I took the sport up.

The incident Vince quotes referring to a pilot crashing on a Spectrum took place at High and Over, which is not a SHGC site.

I agree that the pilot who crashed at Beachy Head should not have been top landing as he is not a P2. In a year's flying at Beachy there have only been two accidents, the one mentioned and Eddie Horsfield's accidental parachute deployment.

I drink at lunch-time and then fly, and so do other fliers, but that doesn't mean we fly drunk. In the six years I have been a member of the club there has only been one incident which was a result of drunken flying — the one which

wages of our numerous BHGA council officers and staff?

On point 2), competitions. The 45 league pilots represent just over one per cent of the BHGA flying members, yet again it appears that the greater proportion of BHGA effort and funds go in supporting competitions at home and abroad. Do these really benefit the other 98 to 99 per cent of flying members in ways which are of interest to them?

The same approach also appears in Wings!, take the September issue: of the editorial pages nine were devoted to competitions and 13 to cover all the other areas of hang gliding including one page on triking (can we not leave that to Flight Line please?).

Vince refers to (the pilot has since apologised to me saying it was a mistake). Considering the amount of flying that has taken place in that time on SHGC, I think it is a good record.

All our club sites are affected by large numbers of the public watching the flying — it gives them a great deal of pleasure. It is a necessity at some sites for fliers to land in the "vicinity" of spectators and to use their "skill" in doing so. Once again in six years, I can not remember any member of the public being hurt by gliders landing, a good record.

The incident Vince quotes in Item 7 refers to Dave Clayton now BHGA Chairman of Training. Once again Vince has got his facts wrong. The pilot had asked Dave to check his harness on a new glider. Dave did so and also advised the pilot to walk round to the northerly bowl as the wind was 45 degrees off where he was. The pilot said to Dave that he wasn't going to take-off for a while and did not need any more help, therefore Dave walked away.

At our prime site, the Dyke, there is a £10 fine for landing in the crop which either myself or the farmer's son collects. Only extremely rarely is the fine not paid, and the system works very well. The farmer's son even complained to me that he wasn't collecting many fines this year as the majority of fliers land in the proper landing field which is open all year. Obviously the fines are pocket money for him, but at least the site is open all year and is secure.

DAVE BLUETT  
Chairman, Southern HGC

• See Leader Comment p.3 on drinking and flying.

*As there appears to be some internal politicking in SHGC, correspondence on this SPECIFIC subject is now closed. — Ed.*

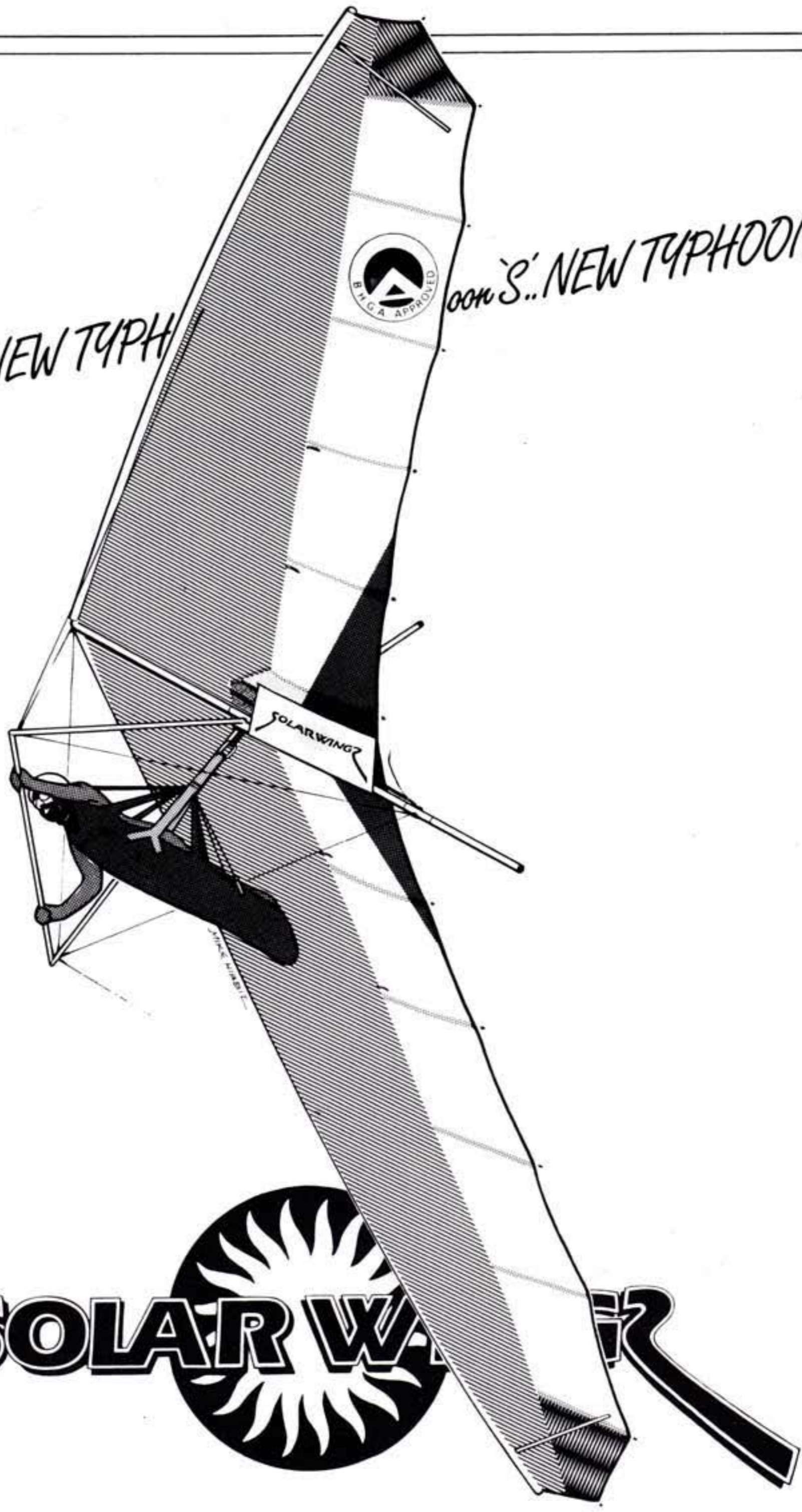
I believe it is time for the BHGA to look at itself before it loses any more members, both existing and potential. Perhaps one solution (dare I offer it) may be to re-structure the whole system and follow the lead taken by the British Gliding Association with more emphasis on local club control (are they not best equipped to deal with local problems, BACKED by a central body) and a completely separate self-financed competition committee, leaving a trimmed down, more economical BHGA council to deal with other matters.

DAVE SYRRET  
c/o Welsh h.g. Centre,  
Crickhowell.

• See editorial reply on facing page.

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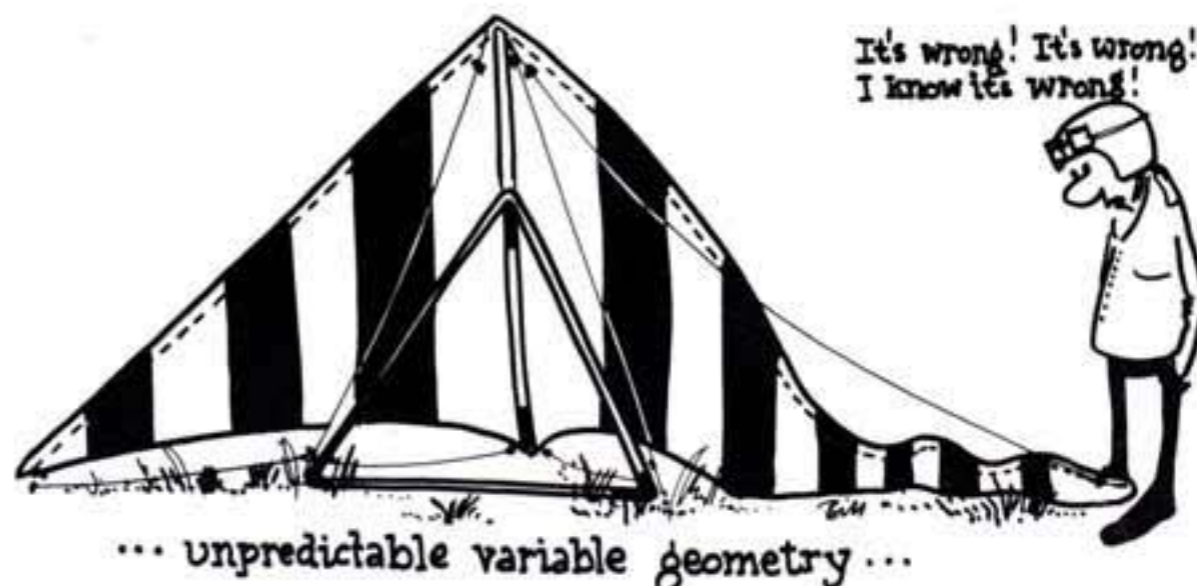


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# The Early Days

## From fluttering to flying.....

by Noel Whittall



BACK in 1976 it was possible to have experienced 183 hang glider flights and still be a novice. I write from personal experience.

My first year or so had been spent grappling with a kit-built standard kite which was innocent of any kingpost or top rigging and on which the flying wires were secured by bulldog clamps.

This resulted in a rather unpredictable flying machine with variable geometry.

By this I mean that after every heavy landing the clips slipped and according to how they were re-tightened the damn thing would either pitch up or become near divergent as soon as it was in the air.

This erratic behaviour of course almost guaranteed another heavy landing so the cycle was self-perpetuating!

It took a year or so to acquire a kingpost, crimped-up rigging, a harness which didn't automatically raise the voice a couple of octaves on lift-off and the confidence to attempt a beat or two along the ridge before the inevitable bottom landing.

□ □ □

Those were the days when we flew straight out of thermals because of the roughness; 360s were considered almost suicidal and almost all flying was conducted in the sitting position.

Quite early in the year I purchased an early Hiway Cloudbase and flights of more than ten minutes began occasionally to appear in my log book. I still

suffered from attacks of nerve and my flying standard varied considerably from a low of a careless stalled take-off one day at Horcum to a high of an unexpectedly reasonable placing in the 1976 Embassy Championships. But I still was not soaring regularly, my confidence constantly sawawed.

Then on one glorious day in September it all changed. Pen-y-Ghent is a marvellous easterly site in Yorkshire, alas now out of bounds. The walk-up was quite gruelling, but I was encouraged by the sight of Mike Shaw, one of the Dales pioneers, bucking the wind on his homebuilt standard.

I rigged on the shoulder of the hill and due to my young wireman interpreting my nervous grin as the release signal, found myself very rapidly in the air. I went up and out as never before, and can still feel the springiness characteristic of those old bent Hiway bottom bars.

I sat on the wind for more than 40 minutes and estimate that I must have gained at least 1,000ft.

The hill looked flat — a phenomenon I had not previously encountered. At last I had space and time. Space to try big turns and tight turns. Time to observe the ground, the glider, myself.

Time to make decisions rather than simply fighting the next crisis. Up to now I had been constantly relating to the ground. Now I as relating to the air and was at least beginning to learn how to befriend its energy. I remember all the walls and sheep-folds; the model Youth Hostel and toy cars. The bulk of Ingleborough which normally dominates this part of

Yorkshire became just another rolling hill, and I was enjoying it!

□ □ □

I didn't attempt a top landing — the height and the duration were enough for that day. I was finally hooked on air. Top landing came a week later, and I went prone a month after that. I changed gliders only when I felt I had reached the limit of whatever I was flying. A Spirit succeeded the Cloudbase, then Scorpion, Cherokee, Storm and currently a Typhoon 'S'.

I've learned to use a variometer and altimeter, bought a parachute, a trike, and replaced a few uprights. I've tended to avoid com-

petition, but have revelled in flying in France and the USA. I feel privileged to have been close to a slice of aviation history as it was being made. But until that first big soaring day, what has now become a sort of love affair with the air was at best a somewhat uneasy friendship!

### New member

League pilot Graham Leason has been co-opted on to BHGA Council to work on airworthiness and technical matters.

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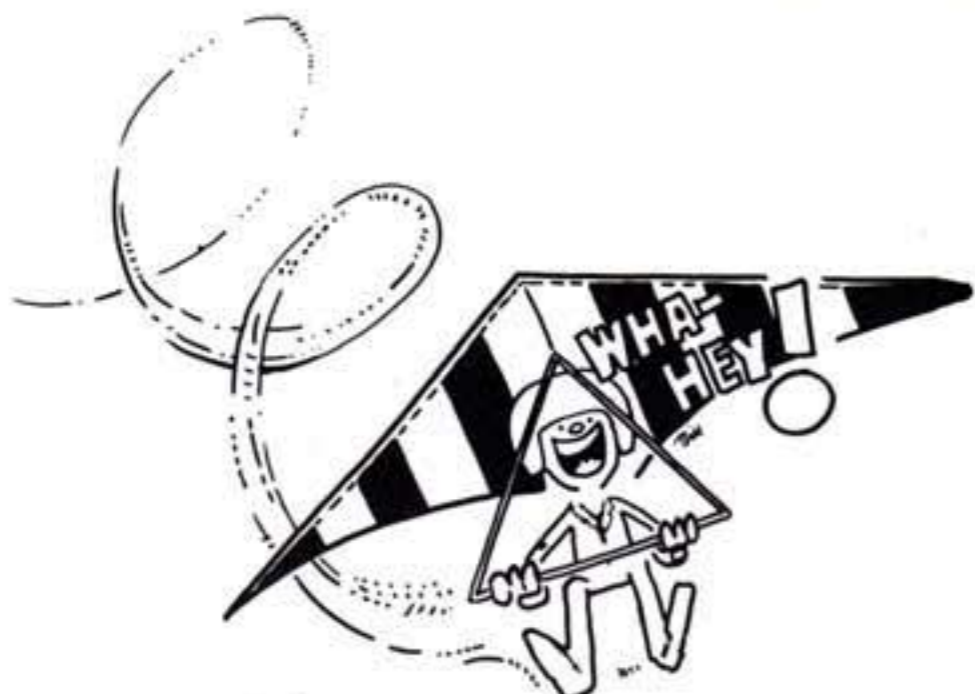
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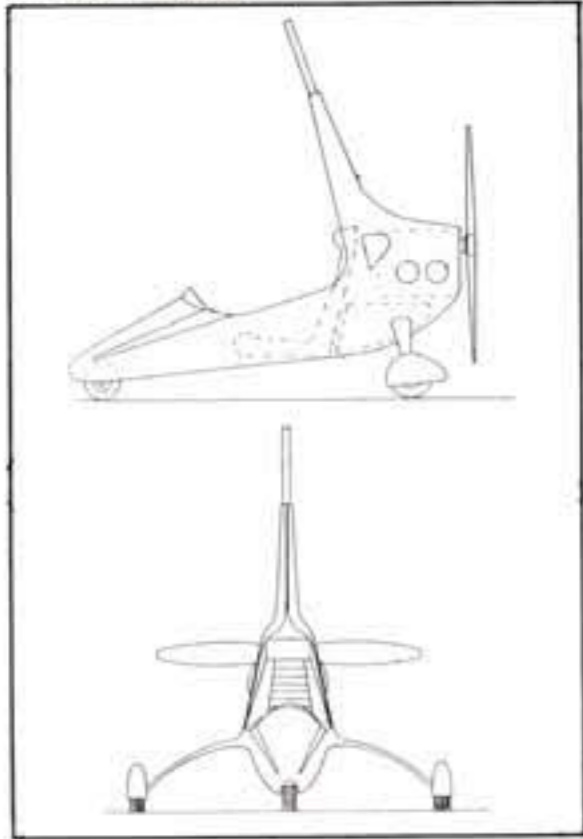
... at last I had space and time...

# The shape of trikes to come

MAINAIR Sports are starting development of a new trike microlight, code-named the X-700.

Derived from the carbon fibre Challenger, the new trike "will take things a step or two further," said Mainair's John Hudson.

"Composites will be used fairly will be in production by the end of this month.



clutter up the average trike and the aircraft will come equipped with standard instrumentation and will be coupled with a wing design to maximise the performance advantages of lightness and streamlining," said John.

"We are staying with the trike, as opposed to a three-axis type of aircraft, since practicality is the name of the game."

The X-700 series will not be available until April/May 1983 and will not be a cheap trike.

"We think there are a lot of people out there who want this type of aircraft, and hopefully we will be proved right," said John. "Today's dazzling array of materials and techniques allows the designer to produce almost anything, and I predict that the microlight of the future will be nothing like the one of today. Those fortunate enough to remember the birth of modern hang gliding will know just what I mean.

"It took a few short years to go from a flapping bundle of triangular fabric to the Comet and its clones; this will happen with microlights, and the only way to stay in the game is to keep on running."



Geof Ball puts the Triflier through its paces

## Striking win!

As reported last month, John Hudson and Geof Ball won the third Norfolk Air Race, averaging more than 40mph on their Triflier/Striker combination. MIKE LAKE reports.

THREE years ago, of the 12 or so competitors who staggered into the air only three completed the course.

This year all but one zoomed home on their slick streamlined aircraft, demonstrating the sport's accelerating technology and pilot skills. All flew trikes, perhaps pointing the way to future trends.

The organisers, Norfolk h.g. club, had somehow managed to secure a sacred piece of land on the outskirts of Norwich as competition headquarters — the Royal Norfolk Showground.

When I say sacred I mean used twice a year and "trespassers will be shot" type of ground. Must have been bribery involved somewhere. A "Town and Country Weekend" was in full swing and this ensured thousands of spectators watching the skills of these powered "hand" gliders. I am sure the event proved a good P.R. exercise.

bloody-well missed it all. Not surprising when I later learned of the incredibly fast times for the 60-odd mile triangular course.

Geof Ball and John Hudson received a "bootiful" trophy which will be engraved alongside previous winners. What prestige. They also received an engraved plate to keep, not to mention a £50 cash prize.

They zipped round in only one hour 25 minutes. Second and third places received engraved plates with Keith Dickenson pipping Bob Calvert to the post by just one minute. Both were flying very flash 330c.c. Pumas.

Will Reynolds earn the now traditional frozen chicken for being the slowest to complete the course. Plenty of free-flying followed with some of the dual machines giving the marshals an opportunity to get their feet off the ground. All who took part had a good time which is really what it is all about.

### Gremlins

Perfect weather blessed the organisers with their marshal-to-base telephones (courtesy of Securicor) and computer controlled scoring. No problem could prevent the smooth running of this competition although at times the gremlins tried very hard.

I watched the last competitor disappear into the distance before deciding to stroll around the "Town and Country" event, content that I had plenty of time before the first pilot was due home.

After a while I was surprised to see a bright coloured flash zoom in to land and sprinted to see who was first. Shock! there on the landing field were nine trikes, NINE TRIKES! I had

### Tougher

Past criticism of the event, completely unjust, ensured the number of entrants was lower than we would have liked, but any sceptics I am sure need only ask the pilots, or people who matter, their views on the event.

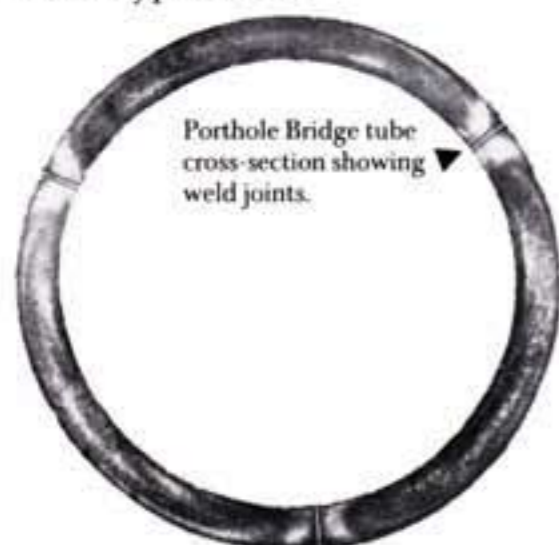
Preparations for next year's race have already started with a promise of a much tougher course. The way things are going, though, it will need to be.

Finally, a certain gentleman who was to take photographs to accompany this article was busy organising trikes, poses, trophies etc. and happily snapping away like David Bailey all day long. He later learned he had forgotten to load the film.



This cross-section (below) shows the structure of aluminium tube made by the Porthole or Bridge tool method of extrusion. The resulting tube comprises a number of extrusion seams along its length (often not externally visible).

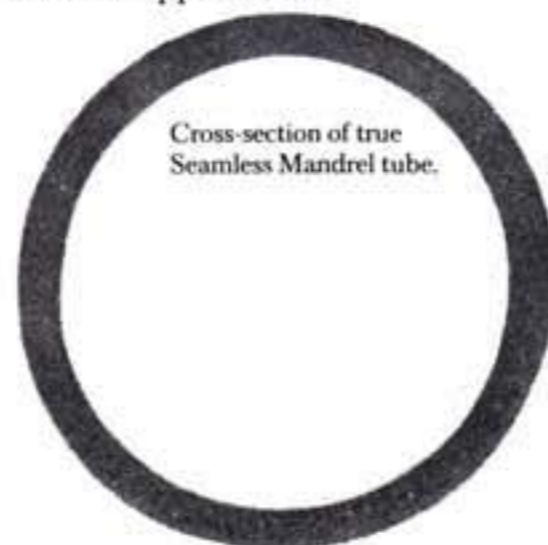
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Porthole Bridge tube cross-section showing weld joints.

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# Tiger Cub launch



IF you don't want to stretch your hang glider by "triking" it, but still fancy the idea of power flying, Micro Biplane Aviation may have the answer.

After more than two years design and development, the Nottinghamshire company has launched its Tiger Cub kit microlight — it differs from the prototype shown in April Wings! by having a fully-enclosed tail section.

It is unashamedly a miniature aero-

plane, with three-axis controls, a maximum speed of 62 mph and airframe stressed to +6 and -4g. A ten-minute "rigging" time is claimed for the aircraft of which the basic kit retails for £2,250 plus VAT.

Company director Tom Wright said a cautious marketing policy was being followed to ensure all would-be owners were properly trained, particularly those who had gained their PPL Group D on flexwing aircraft.

# Wings! Wing!

YOU can read Wings! in the sky now thanks to a promotion approved by BHGA Council...well, you can't read the whole magazine but you can see the logo!

Council approved a contribution of £212 towards the cost of the Wings! glider, flown by editor Stan Abbott, pictured right.



was a "one-off" payment, no further costs were involved and no return on investment expected.

The glider, which bears Stan's own company logo on the other wing, is a 165 Airwave Magic I with Mylar tips. It has

already been flown at the Sheffield League, the European Championships and club sites throughout the North. It is pictured here by Alice Abbott over Longknowe in the Cheviot Hills, Northumberland.



• Flying at Beachy Head, pictured by Dave Bluett

# Unwise Andy

ANDY Wiseman of the Pennine Club may be thinking of changing his name by deed poll after he became the latest pilot to take-off without clipping in and get away with it.

His folly was committed at the Salève, Geneva, where a sheer 2,000ft.

drop follows immediately on launch.

All credit to Andy for keeping his cool, climbing into the A-frame and clipping in to his back-up loop. Writing in the pennine Newsletter, he reports he lost 1,000ft. in the manoeuvre.

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## More Accessories & Glider Market p27

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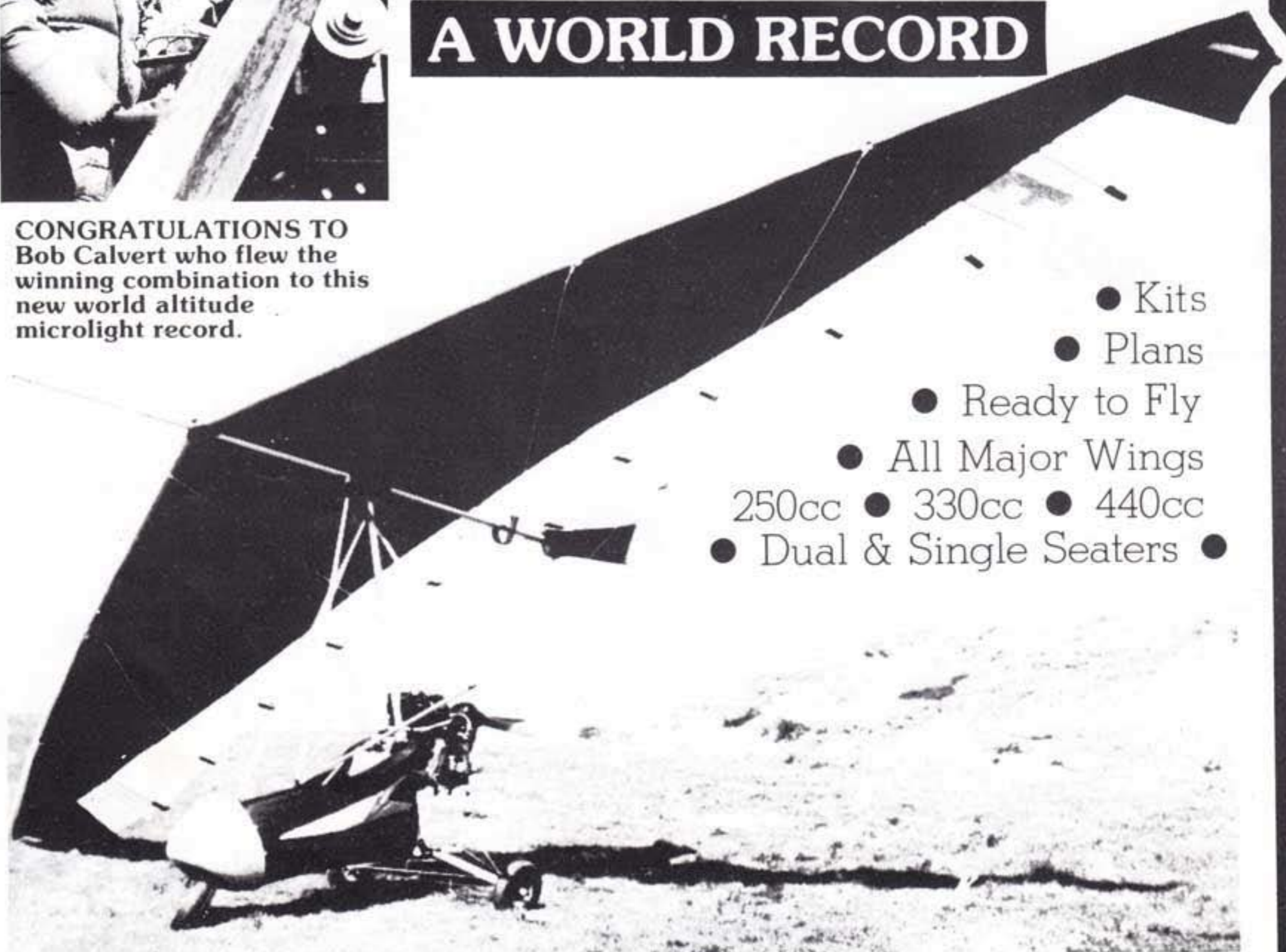


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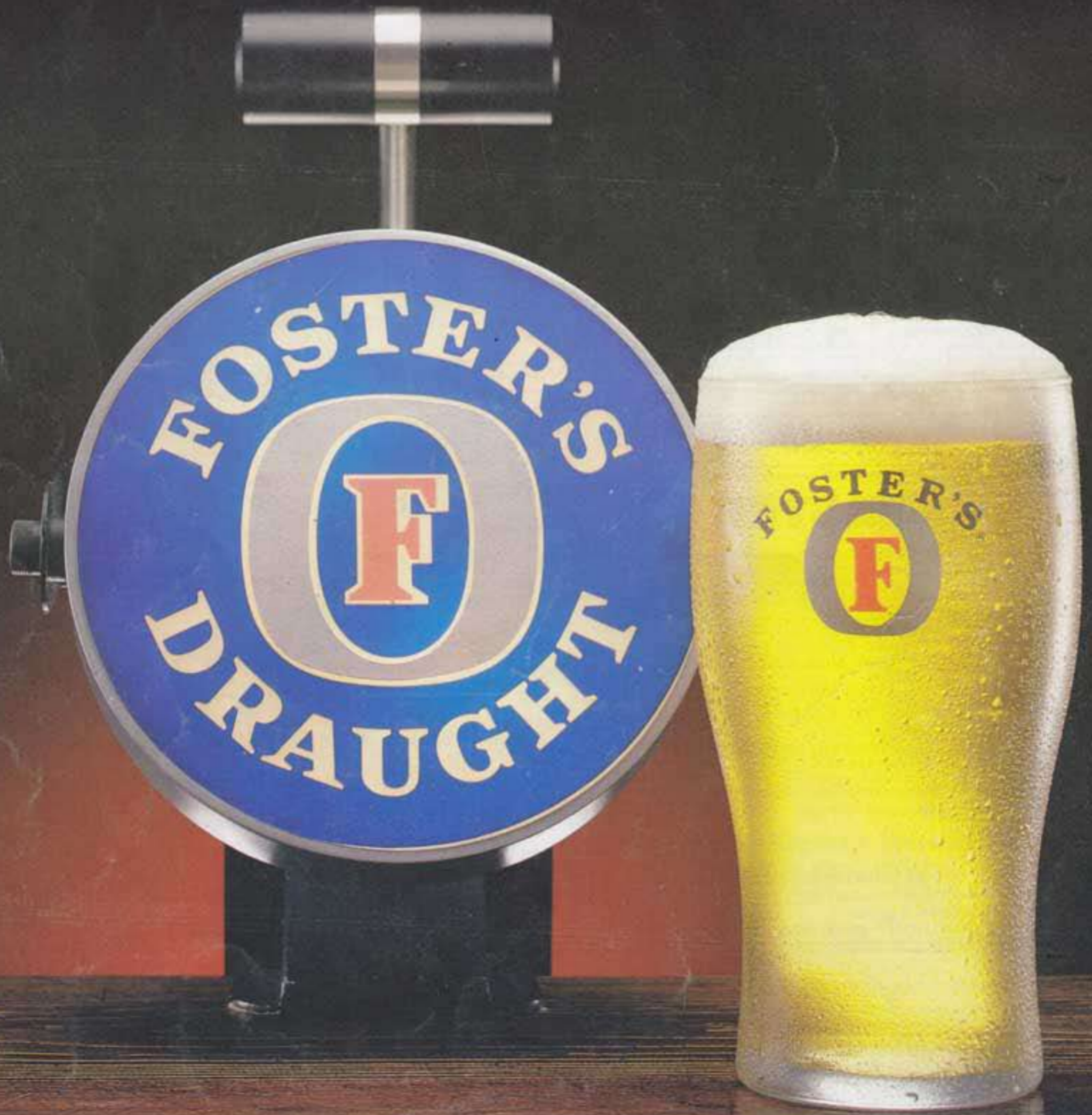


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