



THE MAGAZINE OF THE BHGA

Wings!

APRIL 1981

IN THIS EDITION:

FLYING IN RIO

FLYING WITHOUT WINGS

TYPHOON



**HIGH ABOVE
THE COMPETITION**

SOLAR WINGS

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**THIS GLIDER HAS
NO BRITISH C. OF A.**

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A15	£15,000	£ 75.00	£60.00
A20	£20,000	£100.00	£80.00

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

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'No deposit finance' scheme available

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NORTHERN GLIDER SALES

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* Roundtrip airfares from NYC between US\$ 500.00 and US\$ 700.00 and subject to change at any time. Check with your local travel agent for fares from your home city and be sure to ask about APEX fares.

Safaris planned for 1981

- June 20 to July 4
- July 18 to July 31
- August 15 to August 28
- Sept. 13 to Sept. 25
- Oct. 3 to Oct. 16



Design: Heller + Stillhard, Zurich

Yes I am interested in your Safari
from _____ to _____
and would like to receive your brochure
with complete details.

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 Address _____
 State _____ Zip _____
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Clip and Airmail to:
 Ron Hurst, Delta Safaris
 Kurfirstenstr. 61
 CH-8002 Zurich
 Switzerland



Wings!

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COVER: Coming in to land on the beach at Rio —
Photo: Mark Junak

WINGS! may be obtained regularly by joining the BHGA, or on a subscription of £10pa in the UK. Those outside the UK are requested to send Sterling International Money Orders - £12 (surface mail) or £22 (airmail) for an annual subscription. Details of membership will be sent on request. IN ALL CASES WRITE TO TAUNTON. Wings! is published by the British Hang Gliding Association. The views expressed in it are not necessarily those of the BHGA Council, its Officers, Members or the Editor.

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

The Editor reserves the right to edit contributions where necessary.

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



After a day spent putting the final touches to last month's *Wings!*, I bade farewell to our friendly printers (Blackburn Print) and set off back home to Reading. The forecast that day (Friday 20 March) was for fresh-to-strong south westerlies, so I stopped off at *Mill Hill* en route.

Imagine my surprise to find, on arrival at this now infamous site, a steady, moderate wind, straight up the hill, but no hang gliding activity! Admittedly the sun wasn't shining, and it was fairly late in the day - 5.30 pm., but this is a Southern HGC (biggest Club in the country) site and soarable conditions were clearly evident, with an hour or so of daylight still to go. Without glider, but with my flying gear in the car, I decided to wait and see if any pilots would turn up (being an unashamed cadger of hang gliders) — they didn't!

The soarable wind was being used by *model* glider enthusiasts, and after talking with them, they too expressed their surprise at the total absence of H.G. pilots. After ten minutes' conversation with the modellers, it soon became apparent that they had little time for our sport or its participants. Their main objection to hang gliding centred on the selfish attitude of flyers. We are, to their way of thinking, forcing them out of the sky, severely restricting their landing areas through the numbers of kites on the hill, and generally taking over their sites.

At one time they used to run small competitions from the hill but since hang gliding has become so popular it is now "out of the question". I argued that most hang glider pilots are reasonable people and that if they were to explain their problems to pilots on the hill at the beginning of the day then I felt sure that agreement over take-off, flying and landing areas could be worked out. "No Chance", they said, "you just can't talk to them in the same way that we are talking now. They stick together and won't listen to us." At this point in the conversation I decided to confess my allegiance to the 'enemy' and did so, taking two steps back.

I hope the views of the people I talked to do not reflect the general feelings of *air modellers*. I don't think they do. (See David Bedding's sites article on page 17). But, it does look as though, on some sites, the two sports do not see eye-to-eye! Let us not forget that, in many cases, they have made the first negotiations for the sites, and that by communicating with other users of the hill, we can learn more about the conditions and characteristics of the air we *all* wish to fly in. End of sermon.

Mike Hibbit



DOVER & FOLKESTONE H.G.C.

New committee for 1981

Chairman:
PETER COOK

Secretary:
PHIL HART

Treasurer:
TED SALISBURY

Tech. Safety Officer:
DAVE WOOD

Flying Safety Officer:
DEREK AUSTEN

The following members have been elected to represent the club in other areas:

MARTIN BRENCHLEY, LAURIE ST. JOHN, PETER BRENCHLEY, ANNE AUSTIN, ROBIN PATTENDON, MIKE DRISCOL, ROGER HONEY.

AUSSI BOUND

If there are any pilots making plans to visit Australia, in the near future, and would like a contact for hang gliding, information and assistance, then the address below is for you. Two leading Aussi flyers have just set up a school/shop for H.G. in Sydney and would be pleased to hear from visiting British pilots. Their address is:-
Cloudbase Hang Gliding Centre,
499 Crown Street,
Surry Hills,
NSW 2010,
Australia.

GOOD NEWS

A few months ago, I wrote an article about the co-operation between Suffolk Coastal Council Officers and the Suffolk Coastal Floaters Hang Gliding Club. The outcome was the lifting of a ban on a small coastal site at Felixstowe.

Just recently it was discovered that all the hard work that had been undertaken was for nothing. As the council were about to take the last part of the cliff which was undeveloped (our take-off area) and build 30 or more beach huts for holidaymakers.

So once again the usual wheels were put into operation for meetings with the local council. This time Peter Bowden our sites and local officer took charge and had all the dealings with the council. Most people had already given up hope. Who ever heard of a council not going ahead with a building operation?

Well, Peter went ahead with his task with eagerness. He not only persuaded the council to listen to his ideas but took them to the cliff and showed them where to position the huts so that they would least-affect the flyers.

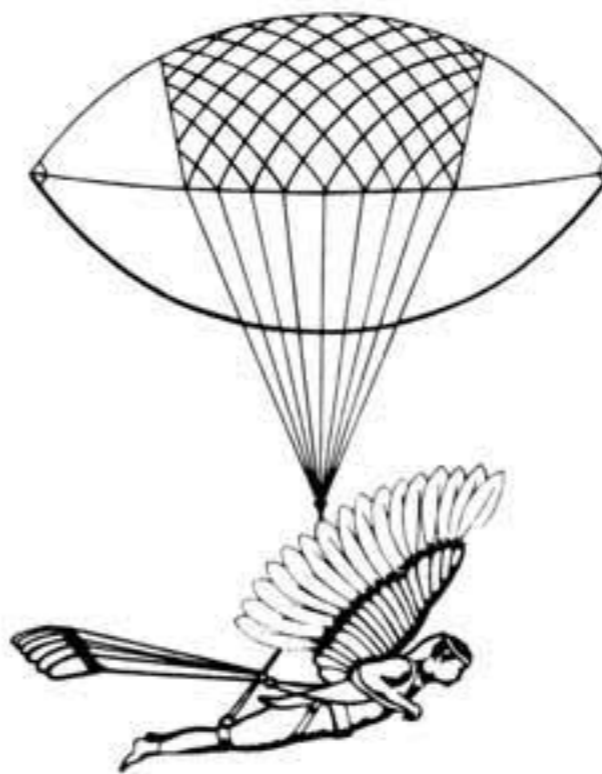
The result was that the council not only took Peter's advice, but even decided to leave a fifty-foot gap up the cliff (just below the take-off area), so gliders could be carried back up without being dismantled. Truly a good compromise and one which will help local flyers. Well done Peter. The

1981 AUSTRALIAN NATIONAL HANG GLIDING CHAMPIONSHIPS, MT. BUFFALO, VICTORIA. FEBRUARY 15th-21st.

1. PHIL MATHEWSON	MEGA 3	7. BERNIE BEER	MEGA 2
2. RON FOSS (USA)	MEGA 3	8. ROD WHITE	MEGA 2
3. STEVE GILMOUR	MEGA 3	9. ROB DE GROOT	MEGA 3
4. IAN JARMAN	MEGA 3	MIKE ROBERTSON* (ENG)	WEDGETAIL
5. JOHN REYNOLDSON	EF 5		
6. RICK DUNCAN	MEGA 3		

* Mike (the dentist) Robertson, on vacation in Australia, is a member of the Southern H.G.C.

club is indebted to you.
TERRY ASPINALL
Coastal Floaters



Reprinted from New Scientist 19-2-81.

IN A FLAP

William Dowson of Renfrewshire has patented a hang glider which, he says, can move forwards even when there is no wind. He aims to achieve this feat with a flapping wing.

Superficially, Dowson's design looks like a conventional hang glider, with a main frame and wings formed from a skeleton of alloy and glass fibre struts covered with PVC sheeting. But the guys and struts are arranged so that when the flyer stands on tread bars slung underneath the wings, and grips a pair of overhead bars, his downward weight tensions the guys and causes the wings to pivot downwards. When the weight on the tread bar is decreased — the pilot transfers his load to the hand bars — the wings move up again. Inherent flexibility causes movement of some struts to lag behind others to create a flapping effect. The inventor claims that this displaces air to push the glider forward even in still air.

B.H.G.A. 500 CLUB LOTTERY

Oct 80		Dec 80		Feb 81	
1st	B D Milner £50.80	1st	J S Higham £51.40	1st	P M Roberts £52.00
2nd	A.R. McRitchie £25.40	2nd	R J Wilson £25.70	2nd	M A Gregory £26.00
3rd	Ultra Sport £12.70	3rd	R Glanville £12.85	3rd	M Southall £13.00
4th	D J Wood £7.62	4th	B Bloke £7.71	4th	M Welsh £7.80
5th	G A Rath £6.35	5th	C Anderson £6.42	5th	R E Glanville £6.50
6th	P Y Balmforth £6.35	6th	K Dickinson £6.42	6th	P D Prentice £6.50
7th	P Clancy £5.08	7th	P Pounder £5.14	7th	A K Wilkinson £5.20
8th	H Unsworth £5.08	8th	B Brooks £5.14	8th	D J Dawson £5.20
9th	L H Brooks £3.81	9th	A Wilkinson £3.86	9th	S M Williams £3.90
10th	R D Freeman £3.81	10th	M Southall £3.86	10th	D C Sollom £3.90
Nov 80		Jan 81		March 81	
1st	J H Cross £53.20	1st	A Geldart £52.80	1st	B C Williams £51.60
2nd	J G Saphier £26.60	2nd	N J Spencer £26.40	2nd	C Hudson £25.80
3rd	G W James £13.30	3rd	P R Kurylo £13.20	3rd	P G Kavanagh £12.90
4th	C A Ingram £7.98	4th	A Firth £7.92	4th	T A Dixon £7.74
5th	R D Edwards £6.65	5th	R Mathews £6.60	5th	R G Whitaker £6.45
6th	R C Spenceley £6.65	6th	J Pennington £6.60	6th	P Clancy £6.45
7th	P T Bowden £5.32	7th	J Hayward £5.28	7th	J A Hudson £5.16
8th	R Symberlist £5.32	8th	J Roberts £5.28	8th	G T Jones £5.16
9th	P J King £3.99	9th	B Milton £3.96	9th	G P Smith £3.87
10th	R C Fenton £3.99	10th	R Garland £3.96	10th	I A Macgregor £3.87

Over the last 12 months the 500 Club has paid out a total of £1,511 to members. The draw results for the last six months are printed below. If you would like to join the 500 Club (you could win the money for that new harness you've promised yourself), then contact Chris Corston, BHGA Secretary, on 0823 88140 for an application form.

P.G. MOSS, Treasurer

1981 GREY PRIZE

150 pounds sterling for the best story or article reporting a major British hang gliding competition published in 1981. Trophy presentation included.

Rules:

1. Story must cover or deal with one of the following competitions: The Bleriot Cup; and BHGA Open; the Roses XC competition, Yorks-Lanes; Scottish Soaring Association Championships.
2. Story must be printed and submitted in the form of its appearance.
3. Story must appear in a magazine or newspaper with greater than 50,000 circulation.
4. Story must appear under sports category in publication.
5. Deadline for entries 25 November 1981.

Inquiries and submissions to:
Bettina Gray
GRAY PHOTO & PRESS
POB 32
Rancho Santa Fe
CA 92067 USA



... ensure that he is reported to the police ...

THEFT OF HANG GLIDERS

Several Hang Gliders have been stolen from their rightful owners during this past year. What records we have suggest that this sort of crime — for that is what it is — is on the increase. Moreover, some of the Gliders are clearly identifiable, for example, Derek Bond had a bright green Harrier stolen last year — and it must be with total disregard for the consequences that these thefts continue.

All members are, therefore, warned that they should take extra precautions in the protection of their Hang Gliders. Consideration should be given to chaining gliders to roof racks — the ordinary motorcycle or bicycle chain-lock is most successful and combination locks are recommended.

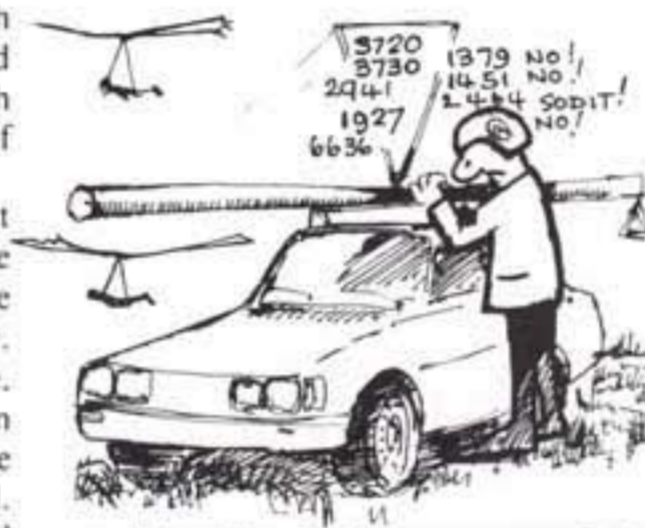
If your Hang Glider is stolen, then drop a line to the Editor or telephone — immediately, letting him have the make of Glider, description — especially the sail colours, Maker's

serial number, etc., together with location from where stolen and circumstances — and we shall publish a notice for you in the hope of recovering.

Reggie Spooner also asks me to point out that those insuring Gliders are required to take all reasonable precautions to protect their property. Underwriters will not, therefore, entertain claims in respect of stolen Gliders if they are not secured to the roof rack — or properly protected. Underwriters also require full descriptions, just as outlined above. If you do see anyone acting suspiciously, or trying to steal a Glider, ensure that he is reported to the Police immediately. We must do this for the protection of ourselves and the whole Hang Gliding community.

STATISTICS:

Five hang gliders have been reported stolen so far this year. Only 25% of pilots insure their gliders.



combination locks recommended...

CALLING ALL SCHOOLS

A 'would be' hang glider pilot has written to *Wings!* in desperation asking for (a) the Best H.G. School in the country — distance no object! (b) the most favourable time of the year to attend a course at 'this' school. The editor would like to hear from 'the best school' so that both parties can meet for mutual benefit.

'Woodworm and bird's nest' in joyride plane

By GUY RAIS

AN uninvited guest who dropped in on the British Hang Gliding Association's annual open day at Mere, Wiltshire, and offered spectators £10 joyrides in his Italian-built Stampe biplane was accused of 12 flying offences

at Southampton Crown Court yesterday.

Mr JOHN ASPINALL, prosecuting, said 35-year-old Maurice John Kirk, sporting a handlebar moustache and wearing a leather flying jacket and helmet and leather boots, landed his plane in a field at Wood Farm.

Kirk, a veterinary surgeon known as the "flying vet," performed aerobatics with his passengers in the open-cockpit plane which was in a "completely unworthy condition," said Mr Aspinall.

The propeller and tailpiece could have fallen off at any time. Other defects included glue failure, mould between the joints, cracked bolts and water in the fuselage.

"It was infested with live woodworm and may indeed have had a bird's nest actually inside

it which could have been there for some time."

During his aerobatics no flight were the turns that one of the passengers, who paid £10, had to put his head between his knees in the open cockpit to avoid blinding out.

Kirk of The Avenue, Taunton Somerset, who Judge Ewart James said had "dispensed with the services of solicitor and counsel" pleaded not guilty to the twelve charges.

They included causing an aircraft to endanger property or persons; flying in a manner likely to endanger an aircraft; and flying an unregistered aircraft.

Other charges included landing at an unauthorised airfield; flying the aircraft without a certificate of airworthiness, without an air operator's certificate and flying rating and without a valid pilot's licence.

The trial was adjourned until today.

Guilty, Sir, But they did have a bloody good £10's worth!



Bill

THE SECOND B.H.G.A. INSTRUCTOR'S COURSE

Imagination is a vital aspect of human instinct, and it's instinct that guides the hang glider pilot to the dark murky vales of a land remote from the familiarity of home. Unknown faces materialised from the haze, forming the group assembled to learn and explore the world of Hang Gliding instruction.

Any preconceived ideas that this was to be an informal get together by a few inspiring pilots were soon washed aside by the first day of work. While we grappled with the philosophy of perception and the need for communication, the mountains outside gained a fine mantle of snow.

We were split into two groups with a glider and actor student each.

"Piece of cake," we thought, as we knowingly clipped in our student. Our concentration was broken by yells from our neighbouring group who

seemed to be encountering difficulty with their student pilot, Gerry Breen. The instructor in charge of the nose rope was lying face down in the snow, while the two wing attendants were dragged towards the Methyr Common bog. This, it appears, is a favourite landing place for out of control students. The glider crashed onto the only grass island, while the less fortunate wallowed in the mud.

Somewhat forwarned, we took a tighter hold of the ropes but were still unprepared for the spectacle that followed. Bob Harrison, our student pilot, imitated the "12 foot screamer", a paranoid, hysterical student who loses all control of his senses (and glider).

"Fly him down," yelled the instructor, and we tried valiantly to bring him down in one piece. The light northerly drift defied our frantic efforts to steer our charge clear of the afore mentioned landing area, and we all ploughed in together.

Through the 5 days of mist, snow, sun, rain, frost and (wait for it) *thermal*, we were exposed to the very demanding physical, practical and theoretical aspects of teaching. The program closely followed the itinerary of the first course, and was brilliantly run by the B.H.G.A. training officer, Bob Harrison. The following are some points of interest that arose from informal evening chats.

There is a need for standardisation of instruction

techniques. All those who had previous instructing experience used different methods and aids to give flight to their fledglings. The Instructors course will remedy this.

A list was drawn up of standard Hang-Gliding terms. This is needed to clarify commands to the student, by voice and radio.

Ground-work was made in forming an instructors group, through which information can be circulated and shared.

Instruction facilities at the clubs will reduce accidents and thereby club membership.

Those taking part on the course:

Ian Cross, N. Ireland H.G.C.

Dave Blinkhorn, R.A.F.

Mick Appleby, R.A.F.

Alistair Milne, Scotland

Bill Anderson, Scotland

Mick Foster, N. Yorks Sailwing Club

Ted Frater, Wessex H.G. club

Dave Walter, Sheffield University H.G. club

Tony Delany, Pennine club

Mike McMillan, Isle of Wight H.G. club

Many thanks to Bob Harrison, Anne Welch, Barry Blore, Gerry Breen and many more for a very successful course.

Mike McMillan

AEROBUBBLE AT DUNSTABUBBLE

The troublebubble with Dunstabubble
When it's soarabubble
Is that the pilots become irritabubble
They've even called the constabubble
And all became irrationabubble
If only we could be reasonabubble
and amicabubble
It is unquestionabubble
That for everyone it would be flyabubble.
(apologies to Rowntrees.)

By the Hanlons N.W.H.G.C.

MEMORIES

For up above is a small white gull
Travelling, without a sound.
Against the blue, its wings spread full —
And me, down here on the ground!

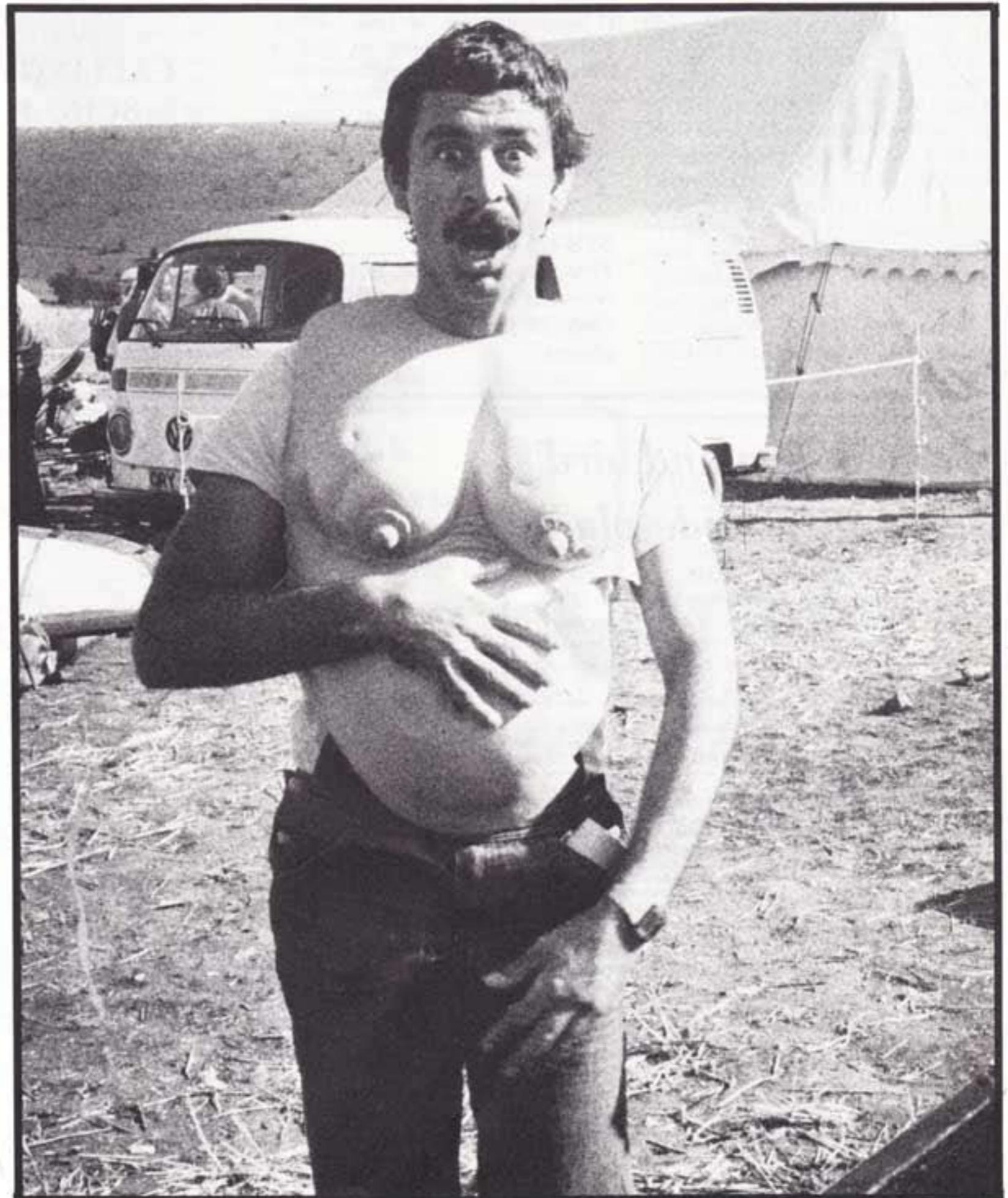
Imagine the view from that seagull's eye:
How much is that memory worth?
For I have been there, alone in the sky
With below me, merely the Earth.

Bob Fisher

Chris Johnson

*The other Hiway double surface machine.
(Could this be the real reason for Steve Hunt leaving?)*

Boobs courtesy of Long John.



Demon and Skytrike

a devilish combination



The combination of Demon and Skytrike represents the industries' first truly high-performance ultralight powered flex wing.

Remember, the Demon you use for conventional soaring fits unmodified straight onto Skytrike.

THIS GLIDER HAS NO BRITISH C. OF A.



The high speed and low sink rate performance of the Demon make it the ideal partner for Skytrike Mk 2.

The 250cc engine develops over 130 lbs of static thrust giving an impressive climb rate, quiet running and 1½ hours duration.



Skytrike folds simply for car-top transportation. The entire structure is anodised; tubes bright and fittings black.

Front forks are strengthened and the nose wheel sports a mudguard. The petrol tank is detachable and has a lockable filler cap.

Write for details and information about your local agent to:

Hiway Hang Gliders Limited
Sirhowy Hill, Tredegar, Gwent NP2 4XP
telephone: Tredegar (049 525) 4521



Flying Without Wings

BY ALAN JAMES

I know of quite a few skydivers who have come to hang-gliding but I don't know of many pilots who have gone over to skydiving. I'm one of them! The reasons for that move are both interesting and exciting.

Both sports share the same medium — air: and both presume to satisfy man's oldest dream, to fly. It seems to me that the sheer thrill of going to altitude in an aircraft and then flying your body for 11,000 feet or so can, for me at least, compete with a 5 hour 40 mile XC. It's a real buzz, and it *is* flying. If I show you a picture of 61 guys jumping from 3 aircraft and then joining in one formation, you tell me how they do that without flying!

We can do everything with our bodies in free fall that we can do in a hang glider — except go up (and I'm working on that!), loops, barrel-rolls (has anyone done that yet?) wingovers etc.

What is getting particularly fascinating for me, is the performance of square, ram-air parachutes. I fly one called a Comet (what a coincidence), and I promise you it does 35 mph and has a 3.6:1 L/D, and a 675 ft/minute min. sink. The large version (300 sq. ft.) has a 44:1 L/D and a 500 ft/minute min. sink. Now I don't have to tell you that's soarable. XC under canopy is therefore absolutely on the cards and with 4 years hang gliding and 2 skydiving, I'm going for it this summer.

Thermalling them isn't easy. You need a tight harness and good pressures off your brakes (see the analogies?) to feel your way round a blob. But we do have some advantages under a canopy — we can commence at any altitude we like up to 12,000', slow down to 4 or 5 mph without stalling, and have some free fall before we start. The current disadvantages are obvious.

The reasons why I feel I can leave hang gliding alone for a while, (*not* give up — I couldn't do that), are twofold; firstly, I felt that I was reaching a level where some of the old thrills of new sites, new gliders etc. were dulling a bit, and secondly that my ability had at least temporarily peaked out (OK, probably lack of practice). So I'll keep my hand in, and come back to the sport hardcore at the end of the summer of maybe '82. With amazing new gliders to fly (the leaps and bounds that are being made in glider and canopy design are not only analogous, they're amazing), new friends to fly with, new sites to fly, new techniques to learn, just like it used to be —

In the meantime, I'll be flying without wings for a while.

Since writing this article, Alan has submitted plans to the British Parachute Association's Competition Committee for a Canopy Cross-Country Comp, and an L/D, min sink task.



'Geronimo'

Free falling off 'El Capitan' in California - August 21, 1980.



'Easy'

photos by Alan James

MT. BUFFALO CROSS COUNTRY Dec 28th '80- Jan 4th '81

Mt. Buffalo is a granite lump on the fringes of the southern highlands in northern Victoria. It is perhaps Australia's most consistent thermal site providing a range of challenging conditions.

Unlike the Owens Valley, the Owens Valley at Buffalo's base, is green and lush, with pine and eucalypt forested spurs and ridges criss crossing the surrounding countryside. Its sheer cliffs face North East and begin to cook early, well before the flat lands and valleys have started producing viable lift. A flight of 5 hours in the Owens can produce 80 miles while here 5 hours is a lot of scratching and skillful route selection to gain 40 miles.

This year proved it to be a valid test of X-C skill and with more prize money and a realistic clearance from the Dept. of Transport next year it should produce a World Class Competition on par with the standard of the Classic and Lachens.

DAY ONE:

Conditions were doubtful and storms associated with a strong front closed down competition flying for the day, although some free flying was had late in the afternoon.

DAY TWO:

Buckland Gap launch site was used and due to restrictions imposed by D.O.T. (ie; height clearances for only 50kms from Buffalo). Most competitors were scratching their heads as to how to clock up a decent distance when the maximum downwind leg possible was about 20kms. Most pilots opted for a dog-leg or triangle course (as two photographed turnpoints were permissible on this day) to stay legal but still managed a reasonable distance. Unfortunately the 15 knot southerly put paid to a few of those plans. Glen Woodward ended up with a 35km flight utilising 2 turnpoints, with Steve Ruffles and Rob de Groot managing 30kms with a simple dog-leg. Trying to cut crosswind left a lot of top flyers trying to penetrate through heavy sink between cloud streets and usable ridges. First round placings were: Woodward, Ruffles, de Groot, Jarman, R. Duncan, Mathewson.

DAY THREE:

Back at Buffalo conditions at launch were mellow but the wind dummies soon showed that good strong lift was around with a corresponding amount of good strong sink which left two flyers in the forest and either a tree climb or a hike out. The conditions were totally different today, blue skies, no Cu's and a slight S.E. drift and the full 50km circle to use. One turnpoint only was allowed today (and for the remainder of the meet) but it had to be at least 20km from launch to prevent ridge running to score distance.

A flyer was packing up his glider when a passer-by stopped to sign his landing verification and remarked that he didn't realize Mitsubishi made hang gliders; as there climbing into the Victorian sky was the red and white Mitsubishi Mega flown by Mathewson. He was in hot pursuit of Rick Duncan, who had left Jarman plummeting in sink. Meeting up a couple of hours and different turnpoints later,

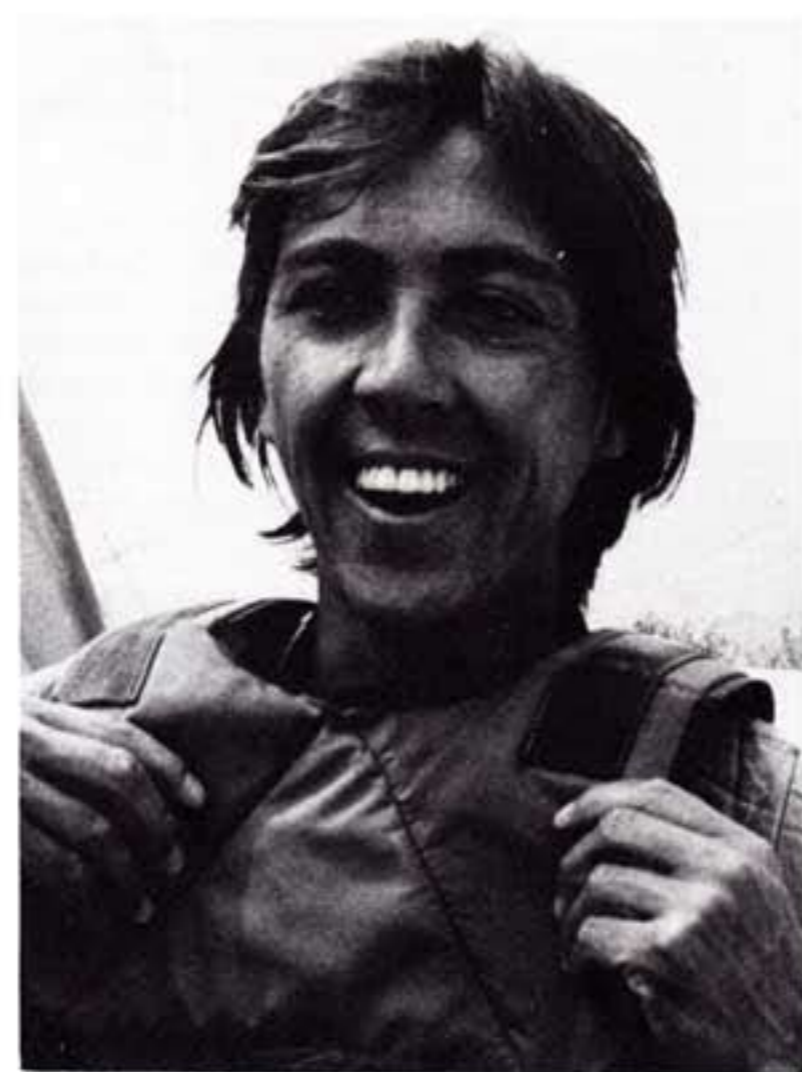
they won the day with flights of 60kms. Chris McDonald and Ray Chatfield, landing at the launch site at Bucklands Gap, took out the next places with Jarman and Woodward filling in the lower order places. The standings now were Duncan, Mathewson, Woodward, Jarman, de Groot and Gilmour.

DAY FOUR:

Buffalo and a cloudless sky saw weakening conditions creating problems with finding lift away from the mountain. Experience seemed to count for a lot today and inconsistency was rewarded with a quick drop in standings. Mathewson scratched away toward Bright and was sucked up the Harriette Valley, eventually coming up against the solid wall of Mt. Hotham and nowhere to go for a respectable 37kms. A lot of pilots headed north hoping to find conditions like yesterday, but soon discovered the flat lands weren't working. Jarman followed Mathewson to Bright, then keeping eyes peeled for marauding eagles, cautiously worked the forested ridges of Tawonga Gap, then with a sigh of relief, (as the inversion sat only 1500ft above the forest) jumped into the Kiewa Valley for a flight of 52.7kms. Woodward once again put in a good flight but Rick Duncan even with two attempts was not able to get too far. Positions now were Mathewson, Jarman, Woodward and R. Duncan. Conspicuously absent from the top placings were Moyes and other experienced X-C pilots like Shane Duncan, Bernie Beer, Rick Martin and Bruce Jackson.

DAY FIVE:

Buffalo again with the inversion higher and the face working early. Steve Powter finally worked it out with an out and return distance of 58.5kms. Jarman and Mathewson figuring an early start meant a longer flight found conditions under-developed away from the mountain and Mathewson cored good sink behind Porepunkah Hill (twice). Reports had Jarman on the ground not far beyond Mathewson, but with pine needles in his eyes enough kms were eked out to save a drop in standings. Meanwhile five pilots specked out over Tawonga Gap with Moyes at the lead. He managed to dump the gaggle on the west side of the Kiewa Valley to take his turn point at Mt. Bogong and head for Mt. York.



Steve Moyes—photo © Bettina Gray



Steve Moyes and Mega III.



Take-off from the lump. Photos by Cherry Salter.

Back in the pub reports trickled in:- Woodward was found and Powter was above the pub radioing for directions over the gap but no word of Moyes. John Reynoldson flew in from Harrietteville with a good out and return of 48.5kms. Later that night Moyes clocked in with a dog-leg distance of 95.8kms, landing just legally inside the 50km border and a 15km lead on Jarman. The ever consistent Woodward being still a few Kms behind Mathewson who was hanging on to the money like a true Scot. The weather now turned bad and unfortunately no more rounds could be achieved.

Report by Ian Jarman

FINAL STANDINGS AND PRIZE MONEY WENT TO:-

1. S. Moyes, <i>Mega III</i>	\$600.00
2. I. Jarman, <i>Mega III</i>	\$350.00
3. P. Mathewson, <i>Mega II</i>	\$150.00
4. G. Woodward, <i>Mega II (190)</i>	\$50.00
5. R. Duncan, <i>Mega III</i>	\$50.00
6. S. Powter, <i>Bandit</i>	
7. J. Reynoldson, <i>E.F. 5</i>	
8. B. Rushton	
9. S. Gilmour, <i>Mega II</i>	
10. R. White, <i>Mega II</i>	
11. B. Jackson, <i>Jabberwocky</i>	
12. B. Beer, <i>Mega II</i>	

The Statistics . . . There were 230 clean take offs from the rather demanding Buffalo launch, a total of 2,941kms were flown in scored competition rounds. Everyone stayed within the D.O.T. 50km limit, proving how responsible hang glider pilots can be, but at the same time showing how restrictive that limitation was, as on every day pilots could have flown better distance by crossing that border to fly downwind.

The simplicity of the meet ensured lots of enjoyable airtime as well as providing sponsors with their moneys worth.

NEWS EXTRA

WEATHER FORECASTS

There can't be many hang glider pilots who would willingly miss those very lucid and carefully explained synoptic weather maps which follow the BBC-ITV news broadcasts. The expert presentation by the Weathermen is highly educational and is an aid to understanding our weather patterns and how they develop.

The BBC Weathermen are preparing a series of six 25 minute broadcasts on meteorology and climatology, planned to begin in April. Exact dates at present are uncertain.

If the coming summer's weather turns out to be anything like last year's, the better we will be equipped to make our own forecasts of local conditions and the more we'll be able to make the best of them and dodge the nasties.

Well timed Weathermen!
Report from Roger Horler

THAMES VALLEY H.G.C.

After the A.G.M. on Wednesday 25th March the new committee of the Thames Valley Hang Gliding Club is as follows:-

Chairman:
RON JEROME (0734) 412857
Secretary:
JOHN SHEPARD (01) 578 7786
Treasurer:
JOHN CRAIGIE (0734) 479231
Sites Officer:
RICK WILSON (0734) 21099
Editor:
JOHN WADSWORTH (0734) 471851
Technical Officer:
ANDY BROUGH (0865) 40292

The Nick Lawler Trophy, awarded for outstanding service to the club over the last year, was presented to Alec Caley for his dedicated work printing, collating, stapelling, and dispatching the club magazine "Volplane".



CELTIC CUP

Are you flying regularly in Wales, Scotland or Ireland? If so, how would you like to represent your country in a prestigious international competition? You can, you know. Just read on...

Last year saw the inaugural Celtic Cup competition between Wales and Ireland (Wales won, begorrah!) at Aberystwyth. And this year the two organising bodies, the Welsh Hang Gliding Federation and the Irish Hang Gliding Association, extend a challenge to the Scots to join the fun. It's being held on the May 23/25 holiday weekend.

Venue is Mount Leinster (Grid Reference 820525 on Sheet 19 of the Irish Ordnance Survey — price £1.57 inc. postage from Eason's, 111 Patrick Street, Cork, Ireland) in Ireland's Sunny South-East. It is a fine hill of 2610ft lying approximately one hundred miles of the Welsh coast. It takes nearly all winds and has a tarmac road to the top — you drive to take-off point. And within five miles are Black Rock Mountain (1975ft), Caher Roe's Den (2409ft) and Slievebawn (1727ft). A couple of weeks ago on Mount Leinster, someone asked his pal rather diffidently, could he borrow his kite — than landed 31 miles away.

The nearest town is Bunclody, where B&B and camping are being arranged for visitors at reasonable rates. Nearby is Rosslare Harbour, terminal port for B+I Line ships from Pembroke Dock, and British Rail ferries from Fishguard Harbour. A very special rate has been arranged with B+I for a car and four people plus kits, Pembroke-Rosslare return, £79 sterling or IR£86, a saving on the normal fare of exactly £50. If you want to travel Liverpool-Dublin or Pembroke-Cork, then the return fare is £94 or IR£103, saving £47. Travel over when you like, return when you like, but you must be in Ireland for the competition.

The only condition of entry is that you have been a member of your national body for three months prior to the event. The best five scores from each country's flyers count for the Cup, and there are also prizes for individual winners.

So come one, come all. Details from Roy Hammond, Irish Hang Gliding Association, 11 Sheares' Street, Cork, Ireland.

APOLOGY

The telephone code number for Sylvia Howard printed in last month's "Wings!" was incorrect. It should have read:- (074377) 365.

OBITUARY

A few words about Dave Jones seems in order. From his early teens Dave always wanted to fly professionally but, as with many of us, minor eyesight deficiencies prevented this. After studying management and also electrical engineering he soon became a very successful business manager.

With the advent of hang gliding Dave saw early on an opportunity to fly and rapidly became respected for his skills, elegant and safe thoughtful flying. He had many friends throughout the country and none have voiced anything other than respect for him, his professional attitude to flying and his remarkable personality. He had many sides to his character and usually kept these to himself, being very much his own man. Personally I'll remember his extraordinary wit and humour — his ability to pull a joke out of thin air.

Many of his close personal friends may feel embittered that flying took him away from us, and many hang gliding friends that power was to blame — Don't, Dave wouldn't have wanted that! He applied himself to Triking in the normal way — a total commitment — since he enjoyed so much the freedom it gave him. He flew Skytrikes with exceptional accuracy and precision, never being sloppy about his flying. After less than six months he had mastered the machine and was turning aerobatic manoeuvres into an art form — creating patterns in the sky.

Dave well knew the score with aerobatics, that even the best have been caught out, but his aptitude and natural flair for flying gave him extreme confidence. Tragically, the only time Dave needed a second chance whilst flying — he didn't get one.

He was a good person to know and a good advert for hang gliding. The only consolation we have is that Dave was undoubtedly doing what he enjoyed at the time and that we have gained another insight into ultralight aviation accidents — we can all be that much safer because of it.

CLIVE SMITH



Dave Jones, February '80.



New Portable Anemometer/Wind Vane

R. W. Munro have just announced a new environmental monitoring product: a portable anemometer/wind vane, called the Anemovane. This is a completely self-contained and therefore portable free-standing anemometer of the magnetic drag-cup type, illuminated permanently by beta lights. Below this, mounted on the same rugged tripod, is a balanced wind vane, with similar lighting on the dial points and fin and balance weight. The beta lights have an estimated life of 15 years. Munro say that the minimum wind speed reliably measured by the anemometer is 3 knots.

Two versions of this accurate instrument are offered: one for general use and the other for military applications. The only difference between the versions is that the military model has dial points marked 12, 3, 6 and 9, instead of N, E, S and W. In military use the 12-6 axis would be aligned with the airfield runway.

General applications will include field environmental monitoring, expeditions, surveying, crop spraying, private heliports and airfields, forestry, dust sampling and noise pollution.

Overall height, including tripod, is about 1 metre (39in) and total weight is 3.3kg (7.25lb). Price and delivery on application to R. W. Munro Ltd, Cline Road, Bounds Green, London N11 2LY. Tel. 01-368 4422.

TELEX: 24130

Beginners Eye View

It was a bright, but cold, sunny morning when I rolled into the school in Woldingham having joined a group of friends to "suss out" this hang gliding lark. Having been flying a little before, I had an idea I'd like it, but how much was the question.

The first person I met was Dave Lewis in leather jacket and crash hat, looking fit to crush rocks in his teeth! However, he turned out to be very friendly, especially when I told him I was from Essex.

The morning started with some theory from Derek Bond who put over safety by pulling silly faces — effective since you get to think if you crash and hit your head you might end up like that! By lunchtime I was itching to do some flying and wondered if Derek's mouth was real or bionic. After some more chat we went over to the hill and took a few hops.

Incentive to land on your feet was provided by nettles, cow pats and of course Dave crushing rocks in his teeth. However, there were two females that day who did seem to prefer the four point landing of boobs and feet!

Then came the big moment — off the top. Having worked my way up the hill, I was there strapped in and waiting ready to go. It's the sort of time when you're *!!* scared and loving it at the same time, weird but probably one of hang gliding's best attributes. "Ready", says Dave, with that grin on his face that makes you think perhaps he's done this to someone before. "Go".

The feeling on the way down was total euphoria, a stand up landing at the bottom and I was one hundred per cent hooked on hang-gliding. The following week I completed the PI course.

Now came the major problem for any beginner — buying a kite. A point I think worth mentioning here is that there seems little consideration given to people who have passed PI but cannot afford a kite straight away. Even an old style kite would give new pilots something to hold their interest and to learn on.

Meanwhile, back in my saga, which makes Ben Hur look like an epic, I have developed into a manic depressive and was considering suicide or even Tony Blackburn when

a sorrowful editor of a club mag quietly admitted he wanted to sell his Wills Wing SST.

Unfortunately, he wanted something called money, and my bank manager, wanting to revert to the old system of me putting money in, wasn't too keen on a loan. I had both brain cells going on the problem one lunchtime when my girlfriend mentioned that she had just got a big tax rebate — FUNNY THAT!

Soon I had her interested in the Nashtime Plan Saving Account called Real Investment Plan of Firm Finances. It worked a treat and as soon as possible the Ed and I went down to Hollingbourne for some test flights the same day, incidentally, I learnt to fly prone — which the Ed explained very well — and I felt at home with the kite straight away. That day was a good day.

Since then, the weather and time have prevented a lot of flying but I learnt a couple of lessons at the Dyke recently:

1. They don't make VTOL hang gliders yet.
2. Hang gliders do in fact bend.
3. Aluminium tube isn't cheap.

Well, we all make mistakes — as the Dalek said as he got off the dustbin — and I'm ready to try again as soon as I can.

I am still at the beginning, every flight is new and exciting and I hope that as I learn more, this sport does not degenerate into a catalogue of circumstances and set responses to get the longest flight or the highest flight and so on.

Although to fly well is essential, in striving for perfection, the enjoyment and the relaxation tends to diminish and with it that feeling of being a true free flying spirit.

Enjoy your flying.

IAN NASH

Reprinted from S.E.S.C.'s mag—Skypaper.



Staying Up

BY KEV GRAYSON

Well, as most N.S.Y.P.1's (Not Soared Yet Pilot 1) are walking around with a slight green tint, I thought I may as well rub it in while I've still the chance.

It all happened one Saturday morning on a hill-side near Neath, in South Wales. The forecast was moderate South Easterly. We started to climb the farm track in the mini-bus at around 10am. The track led all the way to the top but we could see no-one air-borne! Rounding the last bend to the top of the hill, the bus got stuck on a slippery bit. Out and push time! We got it moving, only to watch it drive off into the distance to calls of "Come back," "Robert don't leave us" and "The ba--rd"!!*

We walked the remaining 1/2 mile to the launch point.

Frantic activity; kites everywhere, with N.S.Y.P.1's tangled up in the wires, desperately trying to rig them. The reason for all this wild activity — a fruity 18-20mph straight onto the slope. 3.7 secs later all kites rigged and ready!

Dave (Big Boss instructor) looked around for some unsuspecting idiot N.S.Y.P.1 to chuck off first to see what the wind was like (dummy). Hiding behind the van didn't help me much. Pre-flight checks complete, walk to the edge, clip into my skyline.

Wonder — why isn't there anyone else flying?

Tight straps T/O with Dave as wire man — Release! Pull in and clear the edge, ease bar out and up it went like a lift. I looked round to see the little coloured triangles laid out on the deck all converging on take off. Conditions were a bit good, magic, er peachy.

After making several beats to the left and right and getting the feel of the bar position, I decided to track right, along the ridge in search of better lift and clear the take off area. It was a bit bumpy over a nick in the ridge but the lift was better around 200ft A.T.O.

From this lofty perch I watched other N.S.Y.P.1's take off. Mike and Rob both went down to bottom land missing out on the lift, Rob back, across the top of an 'R.A.F. storm' to try my luck along to the left of tack-off.

Worry! Back down at ridge level, cursing, with a bottom landing looking on the cards. I was too far out from the ridge and out of the lift band, back to the right gaining height "Come in Number 3" "time's up". Suppose I'd better land.

Having planned a top landing, intending to track back to the right and down, I got into position and had a go but it didn't work. I was going up! Change of plan, try going left. This is more like it, loosing height steadily, turn into wind and down.

Recovering from the flight was painful, as frozen fingers came round

and other more important bits took revenge for a 1/2-hour swing in a seated harness. Dave recommended I turn into wind sooner on landing, or use ground effect.

That's about all, it was as easy as it sounds, although the lift was smooth

on a perfect slope with a massive flat landing area!

Good Luck all you N.S.Y.P.1's.

Reprinted from 'Nonks', the New students hang gliding magazine.

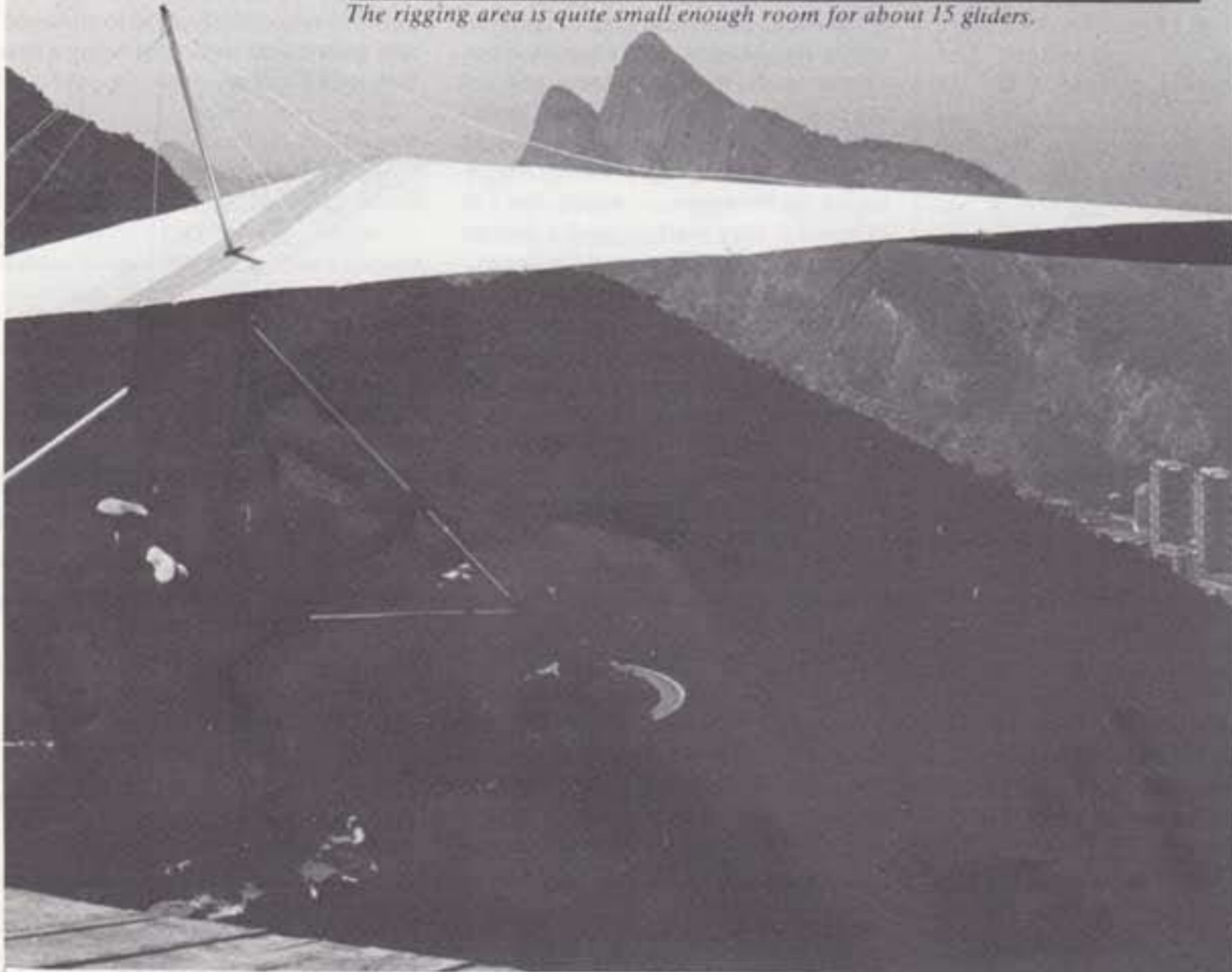
Whether you're new to the sport or a frustrated veteran, why not write to

Wings! and pass on your experiences to other N.Y.S.P.1's.





The rigging area is quite small enough room for about 15 gliders.



Take-off from ramp at Pedro Bonita



Landing on the beach — Pepino

RIO

PART 1

Imagine being offered an all expenses paid trip to Rio de Janeiro during the British winter. This attractive offer was presented to me by a photography student in his final year at college, deciding it was a major project. So, having met Brazilian pilots during an international hang gliding competition would be held in Rio, a life-time was awaited with great excitement and the

After months of arrangements I was on my way to Rio with masses of cameras and hang gliding equipment. Rollei (U.K.) Ltd were helping with expenses and camera equipment and Agfa-Gevaert kindly supplied most of the film. However, everything did not run as smoothly as I had anticipated, the first disappointment being that the competition would not take place after all (I believe that it will now be held in May), so I would just have to photograph the day-to-day flying. After receiving my visa only the day before I left England, I arrived in Rio, to have all my equipment impounded! I only stayed in Rio for a month and it took eight days to retrieve everything with a great deal of help from Ricardo Wejner, the pilot I was staying with.

I soon found that getting the pictures I wanted was going to be difficult and in the end with a small competition taking place during the last two days of



LAYOUT BY MIKE HIBBIT



Rio de Janeiro for one month during the cold, damp winter. Rio resident *Wings!* photographer Mark Junak. Mark decided to use hang gliding as the main theme for his last trips to Italy and America and having been told that an on their home ground in March, this opportunity of a promise of superb flying.

my stay, I only partially succeeded in getting what I'd set out for.

Rio is an incredible place; it's unique! The people are very friendly, the scenery beautiful — a mixture of city, mountains and beach — and the weather is superb. But, of course, above all this, it is possible to fly nearly every day! The main site is Pedra Bonita at 1700ft with a good ramp take-off and beach landing. Being so near to the city, the site is very convenient and so is used more than any of the others. The best site is probably Bocaina, situated about 3 hours drive away. White 1 was there, people were getting 10,000ft height gains — the potential is there! The main glider in use seems to be the Comet with quite a few Atlases, Megas and Harriers around.

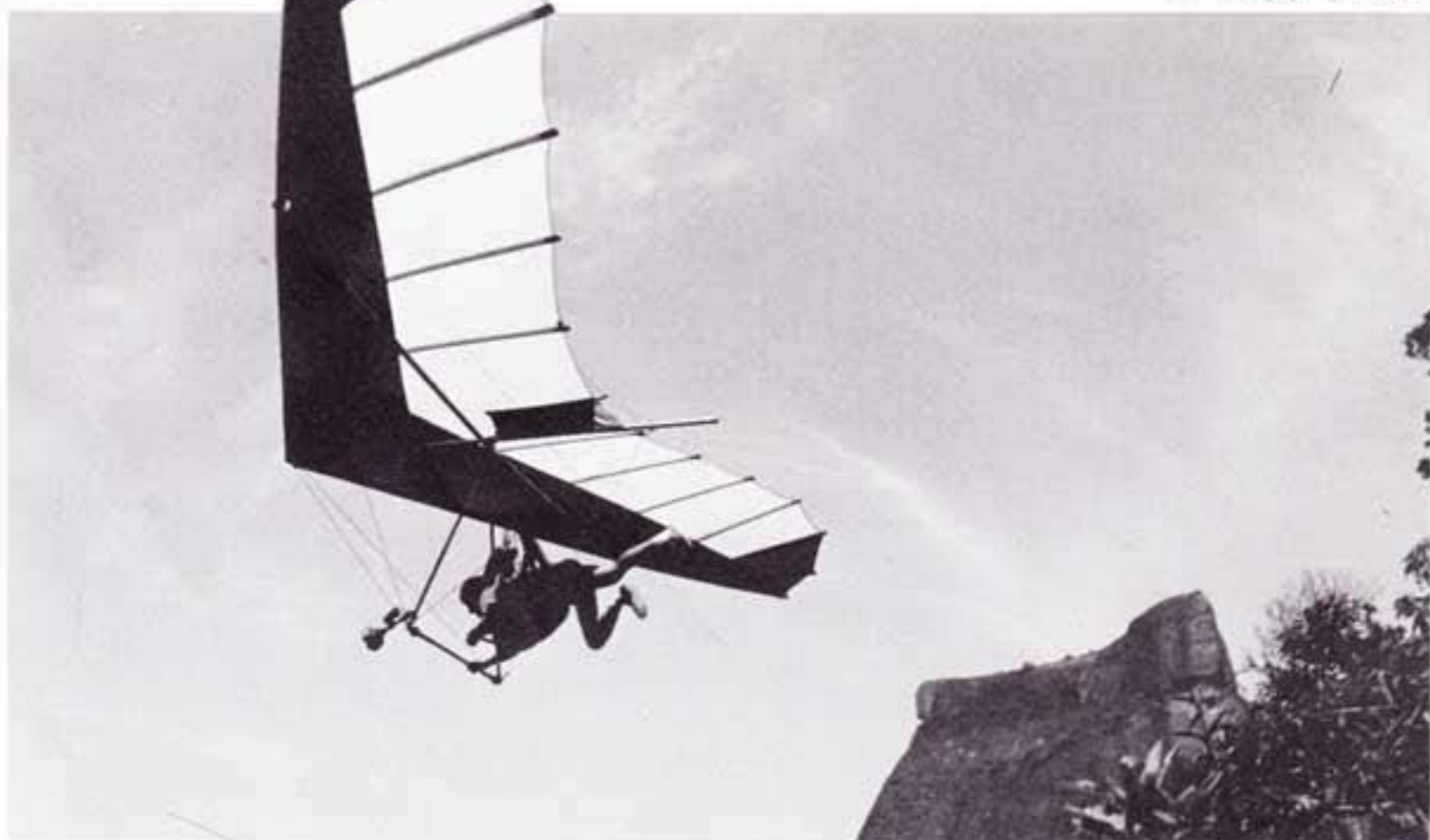
More words and pictures with the low down on them in next months *Wings!*



The Orubu — Has the same sink rate as a Hang Glider.



Mark enjoying himself



Taking off with Gavea in the background

ALL PHOTOGRAPHS BY MARK JUNAK

**BHGA BALANCE SHEET
for the YEAR ENDED 7th DECEMBER 1980**

1979	£		£
		FIXED ASSETS	
3810		Office Equipment, at cost	4,608.55
1636		Less: Aggregate Depreciation to date	2,788.06
	2174		1,820.49
		CURRENT ASSETS	
2576		Stocks	3,328.24
1771		Sundry Debtors	1,777.43
		Less: Provision for Bad Debts	1,777.43
(670)			
505		Payments in Advance	1,325.50
180		Electricity Board Deposit	
810		Cash at Bank - Current Accounts	
5551		Deposit Accounts	13,026.26
2535		Competitions Accounts	121.30
1205		Fighting Fund Account	1,599.54
49		Petty Cash	428.90
	14512		21,607.17
		Less: CURRENT LIABILITIES	
		Bank Overdraft	3,386.06
		Sundry Creditors and Accrued Expenses	3,413.61
2661		Corporation Tax	592.00
270			
	2931		7,391.67
	11581		14,215.50
	13755	TOTAL NET ASSETS	16,035.99
		Represented by:	
		DE HAVILLAND FUND (Note 6)	750.00
		ACCUMULATED FUND	
14304		Surplus as at 8th December 1979	13,754.62
(549)		Add: Surplus (Deficit) for the year to 7th December 1980	1,531.37
	13755		16,035.99

**BHGA INCOME and EXPENDITURE ACCOUNT
for the YEAR ENDED 7th DECEMBER 1980**

1979	£		£
		GENERAL INCOME:	
28236		Members Subscriptions	37,544.59
1256		Members Entry Fees	1,292.17
4446		Sales of Badges, Log Books and Books	5,354.96
2289		Pilots' Certificates	2,589.25
232		Donations and Sundry Income	1,349.44
835		Schools and Clubs Registration Fees	1,063.49
778		Interest Receivable	1,781.57
1172		Commission Receivable	
		Bad Debt Recovered	300.00
	39244		51,275.47
		GENERAL EXPENDITURE:	
31332		Administration Expenses (See Note 1)	37,049.23
(18115)		Less: Sports Council Grant for 1980	30,404.00
			6,645.23
		Wings Magazine - Cost of Production (See Note 2)	20,029.17
14434		Members Expenses	4,434.15
2365		Advertising	82.64
205		Subscriptions	831.50
765		Donations	
430		Sundry Expenses	216.19
621		Badges, Log Books and Books	3,827.10
2473		Value Added Tax Under-declared in previous years	576.93
	34510		36,642.91
	4734		14,632.56
		SPECIFIC INCOME:	
2118		Competitions Account	
422		Lottery Account	1,316.65
		Raffle Proceeds	1,747.52
		Sports Council - Balance of 1979 Grant	5,518.00
3500		Fighting Fund Receipts	822.45
1205		Surplus on Sales of 'T' Shirts	9,404.62
145	7390		24,037.18
	12124		
		SPECIFIC EXPENDITURE:	
7333		Competitions Account (See Note 3)	5,405.17
		Training Officer, Fees and Expenses	5,776.93
		Development Officer, Salary and Expenses	9,064.10
4616		Mere 1980 - Net Cost	398.16
262		Airworthiness Scheme - Net Cost	1,269.45
255	12466		21,913.81
(Deficit)	(342)	Net Surplus before Taxation	2,123.37
	207	Taxation (See Note 4)	592.00
(Deficit)	(549)	Net Surplus for the Year	1,531.37

TREASURER'S REPORT

Copies of the Audited accounts were available at the AGM Meeting. They showed that the Net Deficit for the year on the Competitions Account had been £5,407.17. A letter of apology dated 6/3/81 had been sent by Porritt Rainey & Co. the Accountants, explaining that the Sports Council Grant towards General Administration Expenditure was shown as £30,404.

This sum included the sum of £3,173 which should have been credited to the Competitions Account. Had this been done the Net Deficit on the Competitions Account would have been shown correctly as £2,232.17 for the year. £2,535.59 remained in the Competitions Account at the 7th December 1979, so the Competitions Account was still "in the black" at 7th December 1980.

A Net surplus of £1,531.37 was left at the end of the year. More work had been undertaken and this obviously cost more. The problem was that membership was static. We need more members so that unit costs can be reduced, but the need to build reserves remains.

Percy Moss, Treasurer.

NOTES to the ACCOUNTS for the YEAR ENDED 7th DECEMBER 1980

Note 1 - Administration Expenses

	£
Rent and Rates	1,593.11
Insurance	8,085.70
Electricity	315.67
Telephone	1,166.20
Wages and Salaries	13,575.31
Audit and Accountancy Charges	680.00
Printing, Postage and Stationery	6,649.82
Maintenance and Cleaning	480.81
Committee Expenses	2,104.69
Legal and Professional Fees	1,230.60
Bank Charges and Interest	15.18
Commission Payable	-
CIVL Meetings	-
Press Cutting Service	-
Depreciation of Fixtures, Fittings and Equipment	1,152.14
	<u>37,049.23</u>

Note 2 - Wings! Magazine

Cost	31,430.98
Less: Income from Advertising	9,628.87
Income from Sales	1,772.94
	<u>20,029.17</u>

Note 3 - Competitions Account

Income from Events and Grants	21,905.75
Bank Deposit Interest	351.62
	22,257.37
Less: Expenditure	27,662.54
Net Deficit	<u>5,405.17</u>

Note 4 - Taxation

Corporation Tax payable on deposit account interest received	592.00
--	--------

Note 5 - Fixed Assets

Depreciation has been provided on items of capital equipment at the rate of 25% p.a. on cost.

Note 6 - De Havilland Fund

Flying Foundation received during the year ended 7th December 1980	1,000
Less: Cost of Instructors Course	250.00
Balance at 7th December 1980	<u>750.00</u>

Our Future Sites

By DAVID BEDDING,
National Sites Officer

We need to be accepted, preferably welcomed, on the hillsides. Without hills we would have to concentrate on power launches from flat land, which may well become a substantial part of our future operations, but not many of us would be prepared to concentrate exclusively on this method of getting airborne. That will be our fate unless we continue to maintain harmony on the hills.

We are becoming quite good at achieving a pleasant atmosphere on the ground. Hang gliding would not have survived without it. We are pleasant to other people with an interest in hills, and that counts for a lot. (Where we are not pleasant, people look for things to object to). When we have problems they are almost invariably people problems rather than hang gliding problems. If we can be identified as people on a hillside because we are interested in hang gliding, then it is hang gliding that gets the blame. Our sport interferes to only a small extent with other hillside activities and our danger to other people, property and interests is minimal, even based on our early years. We are still a dangerous sport for participants, but now compare favourably with many other activities. I will not mention any, because they are entitled to their dangers too, and like us are constructively trying to improve safety.

What can we do to improve matters still further? Be even/pleasanter.

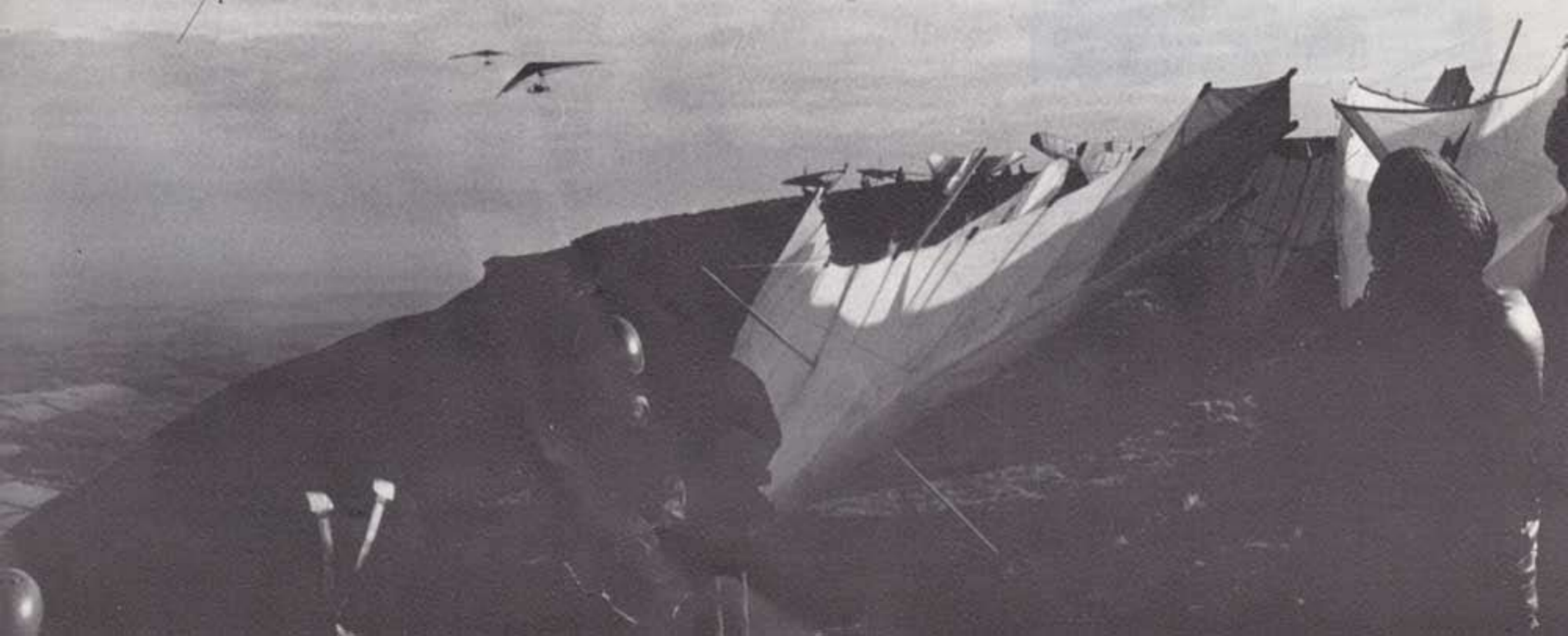
We can also spread ourselves out more. Too much of anything can alter people's attitudes! Our landing problems are diminishing very rapidly as cross-country takes over. When everyone landed in the same field at the bottom of an intensively used hill, we had problems, now our latest craft and our new skills have changed that situation. The more landing points we have, the more we can become an occasional pleasure to others. Hills are traditionally for those who seek solitude, and unfortunately too many hang glider pilots, too frequently, mean that solitude is lost. I urge you all to work towards obtaining more hill launching points, even where you already have one that is better for a particular wind direction. Re-assess the possibilities, as many launch points are now worthwhile that were just not good enough for the hang gliders of the past.

Do not be put off by other forms of recreation. With a little organisation and control we can fly in harmony with other activities. Air modellers are a good example. The National organisation that represents them, The Society for Aeronautical Model Engineers, are our friends (*ed. see this month's editorial*). We are fellow members of the Royal Aero Club and the Central Council of Physical Recreation. We have a national agreement that forms a sound basis for club agreements. Remember they feel as strongly about their sport as we do. Models formed the basis for the beginnings of human flight. Even now they can often teach us a thing or two, and are particularly valuable for assessing flying conditions when the birds are not co-operating.

CB radio has obvious advantages for hang gliding, but do not use the frequency used by air modellers. It is dangerous as a model can be 'stolen' by a CB operator and the model may collide with you in the process. Talk to local aero-modellers so that you can avoid this problem.

I, like you, find it difficult to understand why everyone does not worship hang gliding, and give it precedence over everything. Perhaps one day they will realise what they are missing! Until that happens we have to accept that we are the oddities. In this country there are at least 55,000,000 people who do not fly hang gliders and only 4,000 that do. We are no longer one in a million, but 1 in 10,000 is still a tiny minority. I advise enjoying that *lonely* feeling in the sky while it lasts. Both motoring and sailing used to enjoy a lot more of space.

Sites are an enormous subject. Since I became responsible to you, through Council, for protecting and improving our sites, I have learnt a lot but I would not pretend to know it all; it is quite clear that the subject is too big for any one person to cover in its entirety, even if he were employed by BHGA and worked very hard. National Sites Representatives are very necessary to share the workload. We have N.S.R.s that have worked very hard and we are at present defining our areas of expertise so that Clubs and Members negotiating Sites can obtain this knowledge and use it. *Wings!* will carry details shortly. In the meantime details published last year (and circulated to Clubs) is still useful.



ANNUAL ACCIDENT REPORT FOR 1980

Compiled by
Diane Hanlon
BHGA Accident
Co-ordinator

BHGA ACCIDENT REPORT CATALOGUE

January 1st – December 31st there were 72 reported accidents.

33 primary cause Stalls, of which 7 D/wind.

5 Turbulent or gust induced.
5 Prone Conversion.

7	"	"	Pilots flying into obstacles, e.g. cars or walls.
5	"	"	Incorrect Tuning.
5	"	"	Airframe or rigging errors.
4	"	"	Flying into Power Lines.
3	"	"	Mid air Failures. 1 due to adverse weather conditions. 2 due to tuning and weather conditions.
3	"	"	Involuntary Parachute Deployments.
3	"	"	Ground Loops.
2	"	"	Mid Air Collisions, 1 of these with a model aircraft.
2	"	"	Tow Gliding.
1	"	"	Water Landing. (3 others unreported).

30 of these pilots were inexperienced. (2 years flying or under).

23 of these accidents occurred in gusty or turbulent conditions.



Diane Hanlon

BHGA ACCIDENT REPORT CATALOGUE

HANG-GLIDER TYPE	DATE	LOCATION	PILOT H.G. EXP.	WEATHER CONDITIONS (WIND)	INJURYS	SUMMARY
Skyhook Sunspot Prone	19.1.80	Notts Sarahs Pennines	3 yrs. P.2	S.E. 14-18mph Turbulent	Fatal	
Wills Wings. S.S.T. Towing Skyhook Static Power Winch, Prone	26.1.80	Swafield N. Walsham	Limited	N.W. 18mph	Unconscious 24hrs later, B. Rib, P. Lung	Inexperience, Mod. Bridle. Unsatisfactory Winch Site.
Flexiform Vector Prone	9.2.80	Brown Wardle Lobden Moor, R. Dale	P.1	S. 16-28mph Turbulent Gusty	Unconscious 12 hrs later.	P. Error, W. Conditions Bad, Stall Flew Back into Hill.
Skyhook Silhouette Prone	10.2.80	Long Mynd Shropshire	4 yrs. Exp. Coach	W. 20mph	Fatal	Downwind Low Alt. Turn, Stalled at 40 ft.
Hiway Superscorpion Prone	16.3.80	Green Hill Tinto	5 yrs. P.2	Top, 26mph	None	Did Not Reach Wireman on Landing. Nose Dropped Heavily After 1½ Hrs Flight, Discovered Near Sheared Bolts on Cross-Boom.
Avon Swift Seated	13.1.80	Hill of Beath Crosscates, Fife	5 yrs. P.1	18-20mph S.	Stiff Neck	Blew Back, Crashed in Gully. Pitch Probably Wrong. Indiscretion.
Skyhook Sunspot Seated	10.2.80	Knock Hill Angus	2 yrs. P.1	15mph	Fractured Tibia & Kneecap	Flew into Dyke. Lack of Forethought.
Gryphon	30.3.80	Knockmore		N.W. 15 Knots.	None	A Powered Conventional Glider Flew Across his Flight Path, 100ft Away.
Wills Wing XL Prone	6.4.80	Bala Llangower	4 yrs. P.	5-20mph	Chipped Collar B. Chipped Spine. Fractured Lower Spine	Flew Gusty Turbulent Conditions. Mid-Air Failure After Flipping on Back. L. Wing, Both Locking Tips Broken. Pulled Chute Successfully.
Chargus Midas 'E'	2.4.80	Devils Dyke Sussex	3 yrs. P.	18-22mph	None	Damage to. Slowly Moving Car. Landing in Turbulent Area Near Cars.
Hiway Superscorpion C+. Prone	23.3.80	Rosemarrie Cliffs Inverness	P.R. OBS.	E.S.E. 18mph	None	Chute Caught on 'A' Frame 50 ft Up 20 ft Out From T/Off. Fell Out Deployed. H.G. Pitched Down. H.G. & Pilot Ended Up Behind Fence.
Hiway Superscorpion Prone	16.2.80	Camlough Nr. Newry	4 yrs.	18-22mph	Broken Leg	2 Stalls, Overshooting Landing Area. New Kite Had Problems Landing. Usually Wears Glasses, But Not For Flying.
Birdman Cherokee Prone	5.4.80	Hatterrall Hill	6 yrs. P.	14-18mph	Dislocated Left Shoulder. Head Injuries.	Gust Induced Stall, 360°s D/Wind Disorientated. Lack of Control.
Birdman Firebird 5 Prone	26.4.80	Astmoor, Runcorn	1 yr. Elem.	12mph	Broken Wrist	2nd Prone Flight, Stalled. Inexperienced, Lack of Tuition.
Skyhook Safari Seated	5.5.80	Brown Wardle Lobden Moor	Ltd. 2 weeks	E. 20-25mph	Broken	Took Off Out of Wind, Lack of Airspeed. Inexperience.
Moyes Maxi French Churchard Winch. L. Rover Mated. Prone.	24.4.80	Ongan. M. East	Exp. P.		Broken Neck	Experienced Pilot, But Using Inexperienced Ground Crew. Lock Out. 10-15 Meters Height.

STALLS

a. It's a well known fact that with insufficient airspeed we just fall to the ground, often with grave consequences. It is important for experienced pilots on the hill to be able to recognise other pilots who tend to fly too slow and warn them of the dangers, (we very often don't recognise our own failings). Safety Officers could advise experienced pilots and Observers of this responsibility.

b. Prone Conversion: The pilot must concentrate on flying the hang-glider *before* getting into the stirrup. You can fly without a stirrup but you won't fly without airspeed.

OBSTACLES

I have seen pilots take-off and lock onto an obstacle regardless of an otherwise clear landing area. Other pilots choose an obstructed landing area to save themselves a walk. Pilots should know and plan their landings and choose the largest clear area available. When faced with the mistake of a fast approaching obstacle, the pilot should pull on speed and convert it to height in order to clear the obstacle, not forgetting to ease the bar in after to prevent a stall.

TUNING

I don't need to stress the importance of correct tuning especially with the older hang-glider. An article has already appeared in last December's issue of 'Wings' stating all I would wish to state myself.

AIRFRAME and RIGGING ERRORS

Bent leading edges, tanged-in rigging wires, near sheared bolts, sleeved uprights on an 'A' frame (which contributed to the injury). One tip strut on the Electra Cirrus 5 was fixed on top of the leading edge on one wing and under the leading edge on the other wing. They should both be rigged *under* the leading edges.

Regular servicing and thorough Pre-Flight checks could have prevented these accidents.

All Pip-Pins should be attached to the hang-glider by a cord or wire in order for the pilot to see if it's been inserted. One pilot rigged his Gryphon and almost took-off before being reminded that the 'A' frame pip-pin was in his pocket where he'd put it earlier.

POWER LINES

All pilots should have knowledge of the area in which they fly, if at a strange site they should seek advice from the *local* flyers before they take-off. It is also up to the local flyers to make the danger areas known to visiting flyers.

INVOLUNTARY PARACHUTE DEPLOYMENT

All pilots must be aware of the danger of incorrect positioning of instruments on the 'A' frame. This boils down to common sense.

Parachutes must be repacked at least every three months.

MID AIR FAILURES

The first was caused by adverse weather conditions alone: gusting 5mph-20mph. The other two were caused by adverse weather conditions and incorrect tuning. All three hang-gliders entered luffing dives before tucking at which point the airframe failed.

MID AIR COLLISIONS

This collision stresses the need for circuits to be flown on busy days. All Safety Officers should advocate circuits to experienced pilots, and educate newcomers on the ridge to the necessity and practicality of circuits to avoid this type of accident.

Model aircraft and hang-gliders should be able to mix amicably, as they do in many parts of the country, where there is a problem, I recommend that neither hang-glider pilot or aero modeller novices use the ridge.

WATER LANDINGS

An article appeared in January 1980 'Wings', I will not elaborate.

HANG-GLIDER TYPE	DATE	LOCATION	PILOT H.G. EXP.	WEATHER CONDITIONS (WIND)	INJURYS	SUMMARY
Wasp Falcon 4B	14.5.80	Swinmore Hill Holybush				
Super Scorpion	19.5.80	Brown Wardle, Lobden Moor.	1 yr.	10-12mph S.Off. Smooth	L. Arm, 2 Breaks L. Wrist, 1 Break R. Arm, 1 Break Shoulder, Dis. & Bone Cracked. Concussion.	360° Close to Hill. D/Wind Stall. Sleeved Uprights on 'A' Frame Contributory to Injurs.
Midas E	18.5.80	Kingsclere		0-5mph	Concussion.	Downwind Stall.
Chargus Cyclone 165	17.5.80	Parranporth	4 yrs.	Smooth Light	Concussion. 2 Broken Wrists. 2 Frac. Vertebrae.	Stalled Inside Wing. 'A' Frame to L/Edge Wire Tanged-In.
Hiway Super Scorpion C	21.5.80	East Lomond, Falkland	6 mths.	Smooth 18mph	Bruised Hip	Stall. Prone Conversion.
Wasp Fal on III	22.6.80	Cranoie Market Harborough	3 weeks	5mph	Brain Damage Fatal	Stall. Prone Conversion.
Wasp Fal on IV Prone	9.3.80	Devils Dyke Sussex	5½ yrs.	Smooth 15-20mph	Fractured Skull & Jaw. Bruises.	Mid Air.
Cyclone Prone	20.3.80	Devils Dyke Sussex	6 yrs.	Turbulent 30+mph	Cracked Jaw.	Inexperienced on Type of Glider High Wind.
Flexiform Skyline Seated	27.4.80	Lochlyoch Bowl Tinto	2 yrs.	Smooth 10-14mph	Sprained Ankle	D/Wind Stall.
Sigma 165 Supine	24.5.80	Deep Dale Cumbria	5½ yrs.	Smooth 5-8mph	None	Flew Into Elec. Cables. Did Not Familiarise Himself With the Landing Area.
Hiway Superscorpion Prone	25.5.80	Windigates Farm Leek, Staffs.	4½ yrs.	Smooth 5-10 Knots	Frac. R. Humerus L. Elbow. R. Patella Dislocated R. Knee	D/Wind Stall. Inexperienced on This Type of Glider.
Hiway Superscorpion Prone	22.6.80	Highwind Bank (Vally) Yorks.	8 weeks	Smooth 10mph	Cut Lip	Stall. Prone Conversion.
Atlas. Prone	22.6.80	Yorks Dales	2 yrs.	Smooth 10mph	Neck & Leg Bruises	Stalled in Thermal Activity
Skyhook Sunspot Prone	23.6.80	Windbank, Ketrewell Dales	2 yrs.	Smooth 10mph	Bruised Hand & Leg	Failed to Initiate Successful Pre-Flight Check. Flew With Bent Leading Edge.
Flexiform Spirit Prone	2.7.80	The Cloud Congleton	3 yrs.		None	Failed to Clear Elec. Cables. Lack of Airspeed and Discretion.
Bennett Phoenix 6B	6.7.80	East Hill Northumberland	6 mths.	Smooth 0-10mph	2 Crushed Vert. at Base of Spine.	Inexperience. Froze and Stalled.
Electra Flyer Cirrus 5 Seated	12.7.80	West Hill Northumberland	6 mths.	Gusty 18-24mph	R. Leg Dislocated from Pelvis.	D/Wind Stall.
Wasp Falcon IV	20.7.80	Winter Hill Pennines	5 yrs.	Gusty 26-32mph	None	Involuntary deployment of Parachute. Incorrect Harness Adjustment.
Chagus Vortex 120	22.7.80	Swinyard Hill Malverns	9 mths.	Turbulent 30-40mph	Fractured Femur	Pilot Was <i>Not</i> Flying. Glider Collapsed on Hill. Sudden Reversal of W/Direc. Pilot Tried to Prevent Glider Lifting and Was Lifted With It.
Hiway Vulcan Prone	27.7.80	Green Hill Tinto	2 yrs.	Gusty 16-20mph	None	Lack of Discretion. Cross-Wind Top Landing.
Hiway Superscorpion 'C'	1.8.80	Green Hill Tinto	15 mths.	Gusty 18-24mph	None	Bad Judgement of Height and Ground Speed on Landing Approach.
Birdman Moonraker '77'	16.8.80	Capt. Cook Mon. Little Aiton, Cleveland, Nr. Whiteby			Fatal	
Falcon 3	22.7.80	Whitesands Plymouth	3 yrs.		Broken Neck Shoulder & Leg	Stalled Turn.
Birdman Firebird Prone	5.7.80	Merthyr Common	3 mths.		Bruised R. Shoulder	Stalled. Inexperienced.
Skyhook Silhouette Seated	29.9.80	Moel Y Fean Llangollen	6 mths.	Smooth 12mph	Left Ankle Sprained. Bruised Knee.	Flew Into Parked Cars. Inexperience. Froze.
Skyhook	21.9.80	Filey, N. Yorks.	2½ yrs.	Smooth 16mph	None	Stalled Onto Parked Cars.
Wasp Gryphon	22.9.80	Blaenarvon, S. Wales	3 yrs.	Smooth 8-10mph	None	Overshot Landing Area. Flew Into Car.
Atlas	August	Nont Sarahs	6½ yrs.	Smooth 16-18mph	Bruised Ankle & Knee	Accidental Parachute Deployment. Had Snagged on Compass on B/Bar.
Skyhook Sunspot	27th Sept.	Cairnwell		Turbulent 18-26mph	Bruises	Stalled, Luffing Dive. Tucked and Tumbled Right Way Up. Flat Spin to Ground 150'-200' Below.
	5.10.80	Mill Hill, Shoreham, Sussex	5 yrs.			Mid-Air With Model Glider.
Skyhook Sunspot Prone	22.6.80	Meon Hill	2 yrs.	Turbulent 8mph	Bruising H/Glider Write-Off	Stall. Turned With Too Little Air Speed.
Skyhook Sunspot Prone	21.7.80	Mile Hill, Angus	3 yrs.	Turbulent 20-30+mph	Nil	Flying in Adverse Conditions. Nose Pitched Down, 100ft Dive, Levelled 20ft Above Landing Area. Ground Looped on Landing.
Solar Wings Storm. Prone. (Cocoon Harness)	28.7.80	Milk Hill, Wiltshire.	2 yrs.	G. Turb. 20mph	Cut Chin. Bruised Wrist. Int. Injurs. Winding.	Gust Induced Stall. Harness May Have Prevented More Serious Injurs.

continued over page

Recommendations from the ACCIDENTS discussion meeting at this year's AGM.

1. Clubs should encourage the "ADOPT A NOVICE" scheme. Experienced pilots should keep an eye on beginners ideally on a one to one basis and help them gain experience safely.
2. On busy days pilots should agree the pattern for take-off, flying and landing. A safety officer or site marshall could accept responsibility for organising this.
3. A universally recognised signal that the surface wind direction has changed is required. Wind direction should be indicated by two colourful kite bags spread on the ground to form the letter "T". Pilots should fly up the "T" to land into wind.
4. If an impact is inevitable pilots are advised to let one wing hit first. Records show that "one-wing-first" accidents usually result only in minor injuries even if the kite cartwheels.
5. To minimise injuries to arms, wrists and thumbs, pilots are advised to grip one upright with both hands immediately before impact.
6. A campaign is necessary to make members more aware of the accident reporting system, to make more detailed and accurate information available for analysis.
Why have an accident yourself when you can learn from the mistakes of others?
7. If the kite won't rig easily e.g. an overcentre tensioner won't engage smoothly, check the rigging again, something is wrong.
8. Communicate with other users of the hill: If aeromodellers are there talk to them and (among other things) arrange not to have inexperienced radio controllers operating at the same time as Novices.

HANG-GLIDER TYPE	DATE	LOCATION	PILOT H.G. EXP.	WEATHER CONDITIONS (WIND)	INJURYS	SUMMARY
Wasp Gryphon Prone	7.8.80	The Warren, Folkstone	4 yrs.	Smooth 8mph	Nil	Stalled in Lee of Obstruction. Hit Power Line.
Skyhook Sunspot	27.9.80	Cairnwell, Glenshee	5 yrs.	Turbulent 18-26mph	Bruises	Turbulent Conditions, Nose Pitched Up, Kite Stalled, Right Wing Dropped, Entered Vertical Luffing Dive. Kite Tucked, Both Wing Tips Failed. Tumbled Right Way Up, Entered Stable Flat Clockwise Spin, Impacting 150 -200ft Below.
Hiway Superscorpion 'C'. Prone	28.9.80	Broughton Heights, Lanarkshire	4 yrs.	Gusty 10-12mph	Nil	Trying to Top Land Cross Wind With Little Height. Banked - Turn in Wind Gradient, Stalled.
Skyhook Silhouette Prone	3.8.80	Stange Edge, Derbyshire	P.1.	Gusty 24-28mph	Cut Chin, Frac. Left Leg, Cracked Ribs, Collapsed Lung & Bruising of Internal Organs.	Inexperience With Hang-Glider and Conditions. Over Reacted Which Resulted in Him Crashing Into Rocks Below Take-Off.
Midas E Seated	8.11.80	Huntcliffe Saltun, N. Yorks	Ltd.	Gusty 18-28mph	Pilot Exposure	Flew in Adverse Conditions. Tide Was In. Pilot Landed in Sea.
Atlas	30.11.80	Pennines			Broken L. Arm	Wall Obstruction. Misjudged Landing Area. Heavy Landing, Tripped.
Moyes Mega II Prone	7.12.80	Beltinge, Herne Bay, Kent.	1 yr.	Gusty 16-26mph	Bruises, Pulled Muscle in Leg & Wrist.	1st T. Landing at This Site. Relying on Wire Man. Ground Looped.
Super Scorpion B. Prone	28.12.80	Devils Dyke, Sussex	?	Gusty	Bruised Ribs	Stall Soon After Take-Off.
Moonraker 77 Seated	23.8.80	Gladhouse Knoll, Scotland	6 mths. P.1	Nil. Wind	Heavy Bruising	Stalled on Take-Off.
Solar Storm Prone	21.12.80	Devils Dyke, Sussex	3 yrs.	Smooth 16mph	Broken Leg	Stalled Top Landing.
Birdman Cherokee	3.12.80	Combe Gibbet, Wiltshire	3 yrs. P.1	Gusty 20mph	None	Wind Lifted Part Rigged Kite From Ground, It Flew Backwards and Hit a Car.
Hiway Super Scorpion Prone	6.12.80	Beltinge Herne Bay, Kent.	5½ yrs.	Smooth 18mph	None	Stalled on Top Landing.
Electra Flyer Prone	16.8.80	Tinto	8 mths. P.1	Gusty 18-26mph	Broken Humerus, Cuts & Bruises	First Prone Flight. Ground Looped on Landing.
Osprey 520 Seated	10.8.80	Greenhill, Tinto	3 yrs.	Gusty 16mph	None	Failed to Tighten Strap on Helmet, It Fell Over His Eyes. Impact Through Lack of Vision.
Electra Cirrus 5 Prone	-.12.80	Howgate Hill, Tinto	2 yrs.	Gusty 18-22mph	None	Borrowed Glider. Incorrect Rigging.

Communicate: If a pilot consistently flies too slow, tell him so. He may think he still has plenty of speed to spare.

Hot Gossip BY CLIVE SMITH

"The current spate of new fifth generation hang gliders have produced a 'quantum leap' in performance, particularly above their minimum sink speeds. The general impression to date is that the control characteristics have also been much improved compared to previous 'hot' ships. Some say that general handling and therefore safety is much improved over anything other than the best of previous designs. Others warn that the higher landing speeds and better glide angle make them unsuitable for inexperienced pilots. This article looks at the current designs, explains how these improvements have been achieved and attempts to quantify their performance. The designs vary considerably and thus there must be generalisations."

Although the concepts used to gain this sudden advance have been obvious to some designers and aerodynamicists for several years now, the successful consolidation in the form of a practical and safe wing has been the result of a pioneering spirit allied to a continual programme of applied research. The history is that Roy Haggard designer for Ultralight Products, put the three essential features together first, producing the now famous UP Comet. UP had

contracted out the aerofoil section design to Seedwings Inc, sometime earlier and this paid off handsomely when used on the Comets wing. For this, UP and Roy Haggard must take the credit, but having latched on to the concepts, British manufacturers have already re-optimised the design and re-engineered the details such that performance and handling is better than the original UP Comet's.

To clarify the concepts used in most fifth generation types two lists are given. Any implied comparisons are with previous fifth generation types.

CONCEPTS

- a) Totally enclosed (hidden) cross-booms, unless bowsprit type.
- b) 'Thick' preformed aerofoil sections i.e. large area of double surface.
- c) Roll assist systems (c.g. and billow shift assist) i.e. floating cross-booms, keel hinge giving rocking 'A' frame effect.

OTHER FEATURES

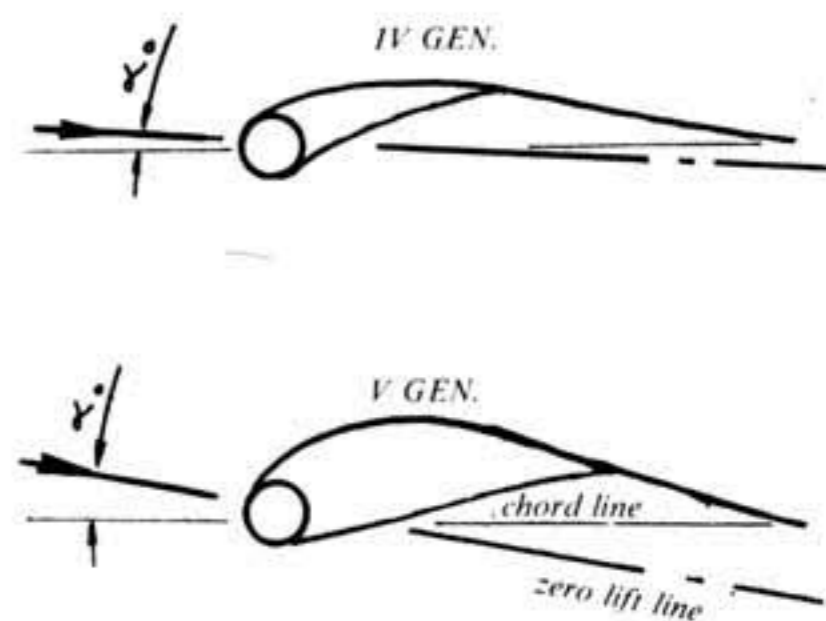
- a) Lower effective spanwise twist (less washout).
- b) Lower wing area and nominal spans giving higher wing loading and aspect ratio.
- c) Highly developed aerofoil sections incorporating leading-edge smoothing devices.

STABILITY AND CONTROL — LATERAL

Low effective twist is achieved in two ways. Traditionally by increasing the spanwise tension (reducing billow) which now gives almost 'drum'

tight sails but also by using thick sections with high upper surface camber right out to the tips which creates aerodynamic wash-in compared to earlier sail designs. Fig. 1 shows how the zero lift incidence effect accomplishes this.

Fig. 1 — Tip-section zero-lift angle



As a natural development of the moving keel pocket principle, roll assist systems were postulated by Peter Robinson, 'Weight shift Rules, OK' in Wings! No. 5, 1979. His hopes have now been borne out by the development of what are commonly called floating cross-booms although a good general term

is roll assist systems — see 'Cross-booms can't float' by Bob Fisher, *Wings!* July 1980. Fig. 2A shows the effect of freeing the keel and thus the hang-point in the lateral plane, usually by allowing it to pivot about the nose.

The dominant effects are to increase the direct influence of the pilots position on billow shift and also to reduce the effort this takes, since the hang-point moves to some extent with the pilot. A second order effect may be that some pro-turn yaw is created by the keel pocket moving like a rudder. Fig 2b.

continued next month

Fig. 2a — Increased billow shift with reduced effort

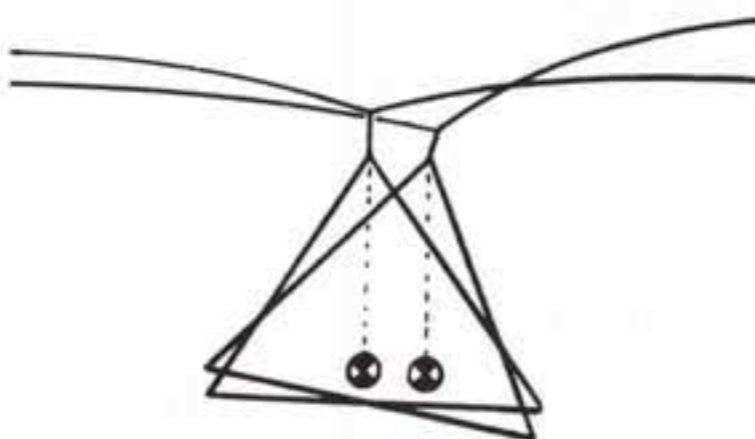
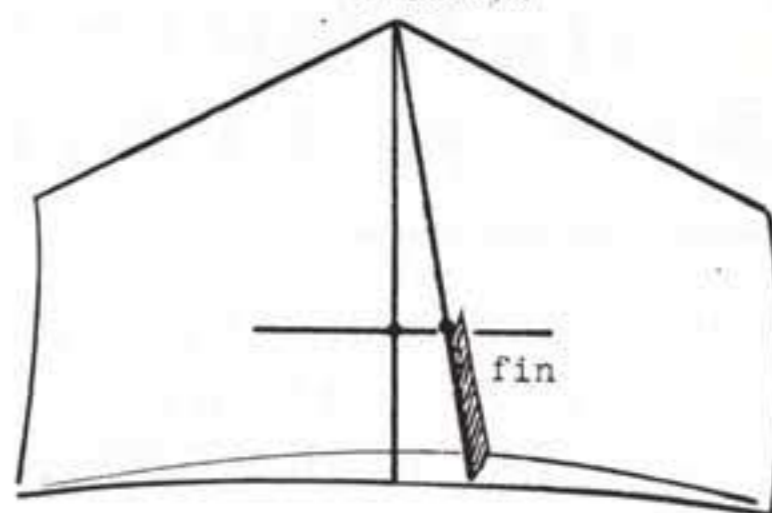
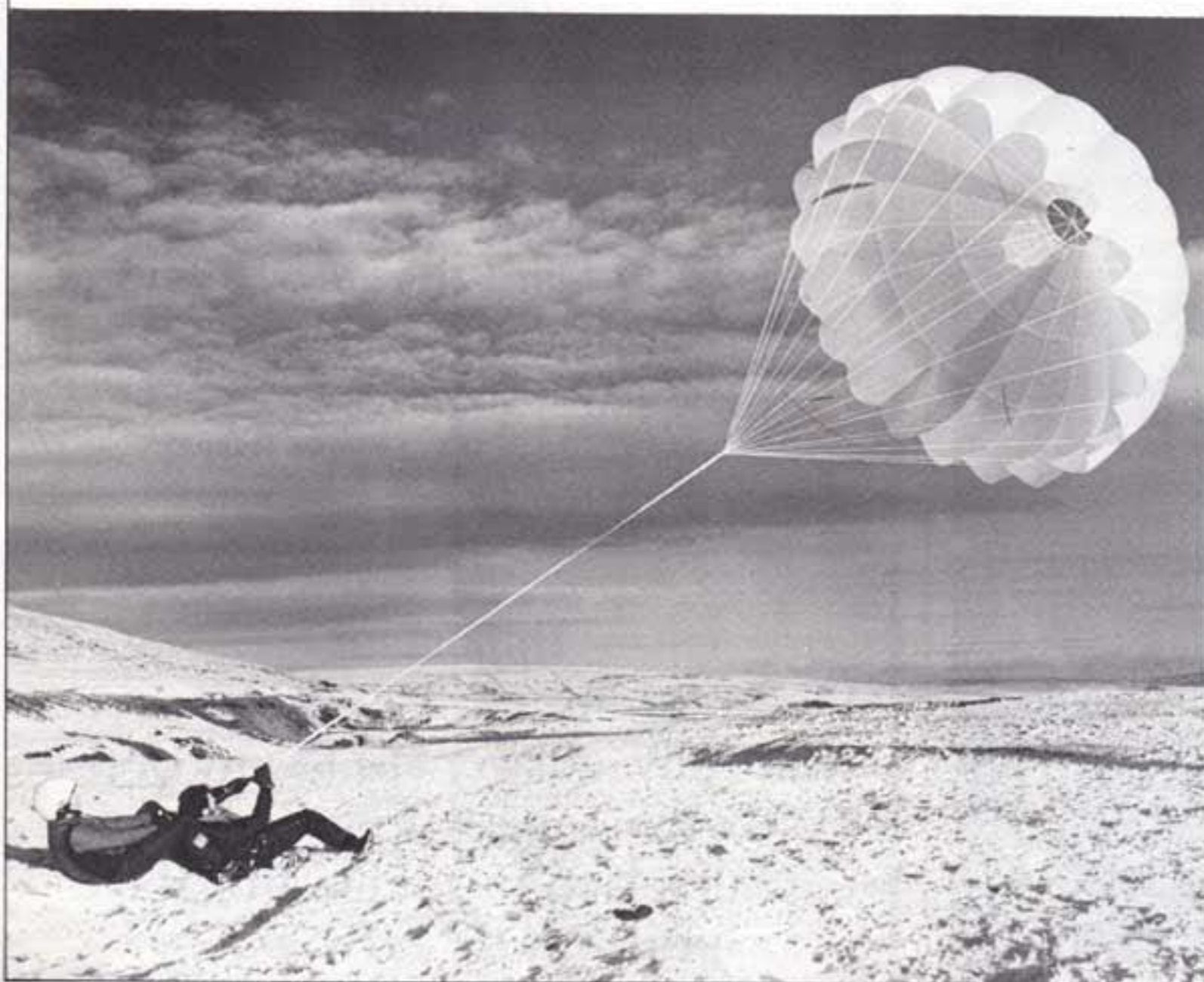


Fig. 2b — Pivoting keel and the movement imparted to ventral fin



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Midlands 0455 32 931 or 32526 P Bennett



GLIDER PILOT
Geof Ball

THE BEST IN EUROPE 1981

AIRWORTHINESS BULLETIN

1) RIGGING — THERE HAVE BEEN SEVERAL CASES REPORTED OF NOSE WIRE PROBLEMS

- a) Generally the front and rear rigging of hang gliders is always a very inspectable item due to the frequency of rigging/derigging and ground contact. If you are in doubt about the integrity of your gliders' rigging and/or damage tolerance seek good advice from Club Tech. Officers or BHGA sources (*Wings!* Dec 1979 - Airmail Answers carried some info on front wire fittings)
- b) Specifically, single length nose wires (looped around nose thimble) have failed during impact (reducing energy absorption) and recently during light ground handling *AFTER* flight. The latter case reinforces the case for double wires, fore and aft. The wire had fretted badly on exit from the nose thimble swage (crimp), first internally, then finally the outer strands broke. *This was a very close call and subsequent in-flight failure very much a possibility. N.B.* The failure on the ground was a total breakage, despite being part of the glider that is seen and handled during every rigging/derigging. The glider was Chargus Cyclone, but other models have this feature. *ACTION on any glider with single length nose/rear rigging inspect the area local to the swages for broken strands (internal) and corrosion (discolouration). The final swage should be flared or chamfered to relieve the local stress raisers at the exit. For safety and peace of mind renew or PREFERABLY change the rigging to the now standard approved double wire system.*
- c) Any flexible wire and local stiffening (swages etc) can give similar trouble. *Check those seated/prone conversion wires and any adjustment straps! Compress and untwist carefully to inspect the inner strands!*

2) FLOATING CROSS BOOMS/PIVOTING KEELS/C.G. ASSIST SYSTEMS

With the advent of these lateral control assist systems all owners should be aware of how they function (*WINGS! JULY '80 Crossbooms can't float - Bob Fisher*) and the problems that could develop.

- a) If a floating cross-boom(sic) becomes stiff in operation or locks over one way for whatever reason — *you are in trouble. Ensure it never happens!* Malrigging is the most likely cause. Wear and tear are obvious long term dangers. *You may be flying the highest time model of a particular type. Keep ahead of any long term problems that might occur — by inspection and common sense reasoning.*
- b) *Inspect ALL hinges regularly for crash damage, long term wear, corrosion, fretting and cracking — particularly with respect to friction and potential jamming.*
Inspect the cross-boom/wing bolt, 'a' frame/keel, and keel/ noseplate junctions for incipient deformation and cracking at regular intervals of flying time.
- c) The rigging is now subject to slight movement in flight. *Similar checks to 1c) should be made periodically on all the susceptible rigging areas.*
- d) *Remember — Weight shift lateral control depends on just that — weight — and therefore the 'g' being pulled. The new gliders lateral control systems depend more so on 'g' because without the c.g. assist devices weight shift has little effect.*
Therefore if you are only pulling 1/2g you have lost more lateral control than on previous gliders. Bunts and wingovers can thus relieve you of roll control more effectively than ever before — don't be fooled into thinking that because your new glider is 'light in roll' turns (1 1/2-2g) that it won't become immovable if the 'g' drops off in turbulence or radical manoeuvres.

3) PIP-PINS —

Their susceptibility to damage, rapid corrosion and subsequent ball-lock jamming is causing concern worldwide. This subject was aired in some detail in *Wings!* June '80.

Inspect yours before every flight and also after landing and contact with any hard ground. In the CORNERS of 'a' frames they are very prone to damage and also prime structure. Change them if in doubt.

IMPORTANT

A Date to put in YOUR Diary Now

20th September 1981

Event

The World Aviation Pentathlon

Sponsor: CAPITAL AVIATION

Organising Body: BHGA

Sports Participating

- ☆ Light Aircraft ☆
- ☆ Gliding ☆
- ☆ Hang Gliding ☆
- ☆ Parascending ☆
- ☆ Parachuting ☆

(CASH PRIZES AND TROPHIES)

Ground and Aerial Displays

Do you want to be the
1st World Aviation Pentathlon Champion?

FULL DETAILS IN NEXT ISSUE OF *Wings!*

Important

Dear Member — If you can truthfully answer YES to any of the following questions consider yourself to be unquestionably

ASTUTE ☆ WISE ☆ LOYAL ☆ and
COMPASSIONATE

Questions	YES	NO
1. Have you an IQ of exactly 181.76	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you consider yourself to be the worlds worst lover	<input type="checkbox"/>	<input type="checkbox"/>
3. Do you know how high a pregnant elephant can jump	<input type="checkbox"/>	<input type="checkbox"/>
4. If you were renamed would you like to be know as master bates	<input type="checkbox"/>	<input type="checkbox"/>
5. Have you sold your book of draw tickets, Issued with last <i>Wings!</i>	<input type="checkbox"/>	<input type="checkbox"/>

Sell your book quickly closing date
22nd May 1981

Score a YES and be admired by All



Barry Blore

POLISH POWER PLANTS

The development of motor-hang-gliders and small aircraft is limited, because proper engines are not available. The VW engine, the best one though too heavy, is not produced now. Two cylinder boxer engines for snow-scooters have the proper power and mass, but suffer from high vibration, dangerous for the duraluminium hang-glider structure. The same applies to the two-cylinder Trabant engine. One-cylinder engines have the more severe vibration problems and most of them (especially those on motor cycles) have too high a working speed and need gears to be employed.

I have tested 12 various engines and only VW and the 2RB appeared useable for the prolonged operation in the air. The 2RB power plant is the result of many tests carried out on one-cylinder engines. It consists of two one-cylinder engines coupled together as a fixed unit. This results in a considerable reduction in vibration; each engine drives a separate airscrew and can work independently of the other. One engine has enough thrust for straight and level flight of even heavy hang-gliders, which increases the safety level in case one of the engines fails. The engines are equipped with the specially designed mufflers to reduce noise. Their design allows the greatest power for take-off, are placed in a way enabling them to be fitted on both sides of motor-hang-gliders. The fuel system depends on two floatless carburettors which allows the engines to run inverted. The airscrew was selected for a short take-off. Now we're working on multi-blade airscrews to reduce gyroscopic effect. The engine-airscrew unit can be either pull- or push-power. The rotation of the shafts are opposite (right shaft rotates to right and left one to left) to reduce the reaction moment, and to produce the symmetrical airscrew downwash acting on any horizontal tailplane. The noise of the power plant in flight is the same as the standard motor-cycle. The engines are heat-resistant and can operate continuously at 90 per cent of maximum power.

The above-described power plant can be produced by amateurs with available one-cylinder engines.

The power plant consists of two one-cylinder, two-stroke engines joint at the cylinder heads by means of support of high stiffness.

Cylinder capacity . . . $2 \times 250 = 500\text{cc}$
Max. power . $2 \times 15 = 30\text{kW}$ (40.8hp)
Max. power engine speed

5100-5300rpm

Cont. power

$2 \times 14 = 28\text{kW}$ (38hp)

Cont. power engine speed

4800-5000rpm

Max. static thrust

$2 \times 470.4 = 940.8\text{ N}$ (96kg)

Static thrust engine speed

4500-4700rpm

Pressure ratio 1:10 Feeding: 2 float-

less carburettors with fuel pump
Fuel: LO 92 gasoline/oil mixture
30:1

Fuel consumption:
330g/HP.h at 70 per cent of max. power

Rotations:
right engine to right, left engine to left

Airscrews:
fixed pitch, two-blades, wooden structure, 0.8m diameter.

Airscrews axis distance: 0.82m
All-up mass with airscrews and mufflers (without accu.) 0.82kg

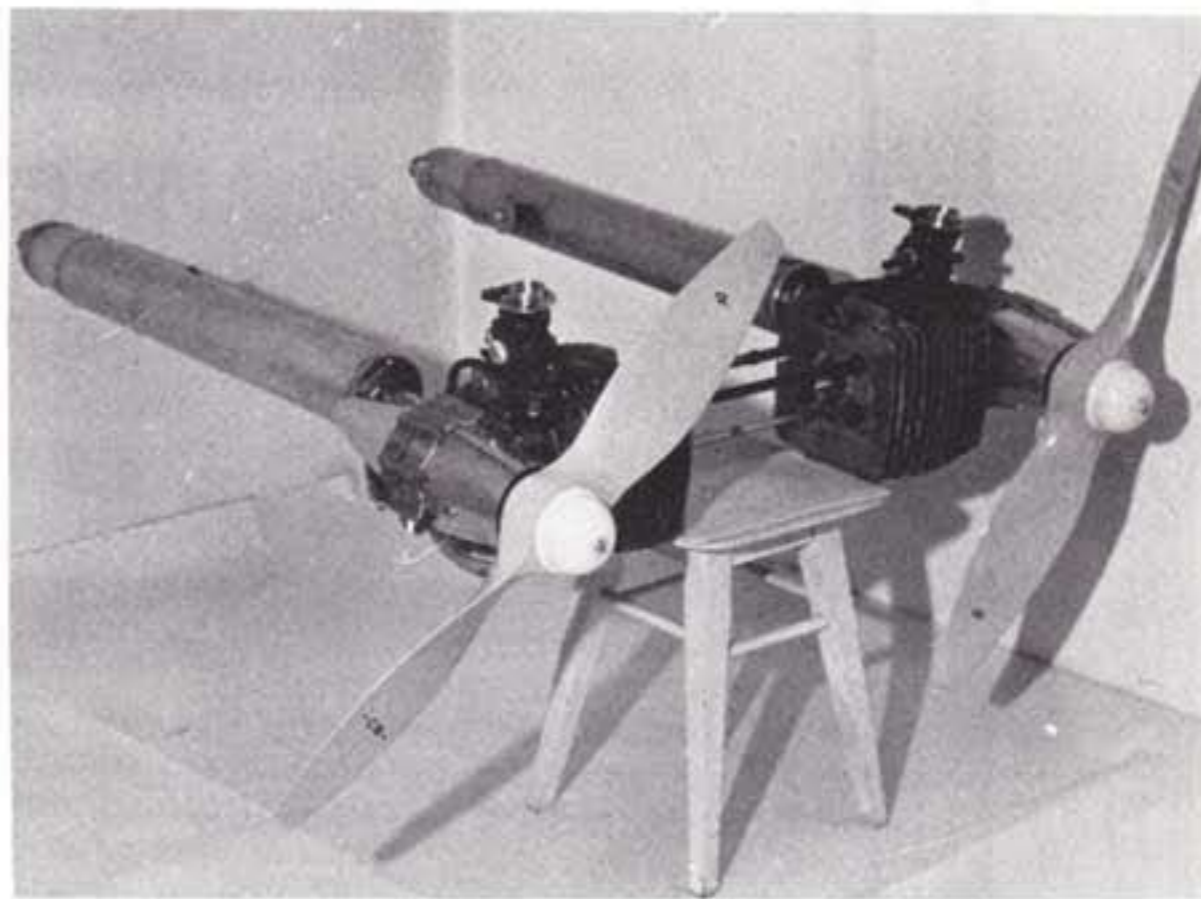
Thrust direction: pulling or pushing (after swapping airscrew between the engines)

Engine attitude in run condition: arbitrary (inverted)

Main advantages: low vibrations, small noise, simple to service, more safety.

Jozef Borzecki

POP Power



STOP PRESS POWER NEWS . . .

A Trike apparently made a forced landing in a tree somewhere in Essex

. . . A Trike/Lightning combo flying in Spain suffered a sudden engine displacement caused by failure of bonded silentbloc motor mounts. Bonded motor mounts should be replaced with the 'bolt through' type normally used on aircraft, or some form of back-up retention system added to the unit. A parachute could be a life-saving device even on a powered hang glider.

. . . It has been reported that a propeller 'fell off' a microlight being flown by John Pemberton near Sittingbourne, on Sunday 29 March. It is believed that the prop struck the roof of a house, causing little damage, however, an auto-rotating propeller is potentially lethal and the Dept. of Trade's Accidents Investigation Branch have impounded the aircraft. It is believed that it was a Pterodactyl with a 350 Sachs Power Unit — we await their report with interest . . .

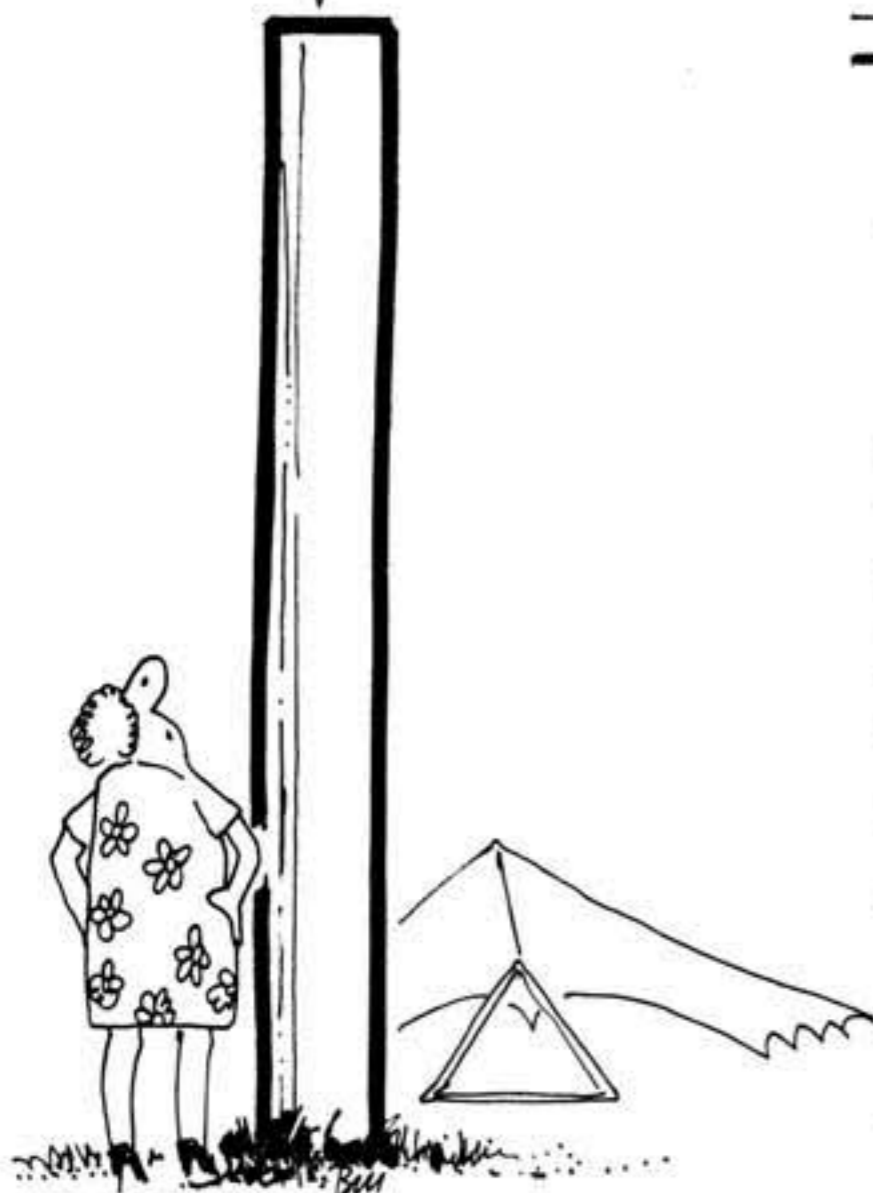
. . . AIB Bulletin 2/81 contains a report (Ref.EW/C726) of the factual evidence relating to the Dave Jones hang glider/trike accident of December 21, 1980. The chief Airworthiness and Accident Investigation Officers have produced a report — including recommendations about power flying. This will be printed in next month's Wings! . . .

. . . Jim Bowyer, noted power man, dislocated his shoulder after free flying recently at Pandy.



An untypical photograph of Nick Regan, the new editor of the BMAA's magazine Flight Line, shown here fully helmeted, and powerless, at last year's Americas Cup. Nick, using a prone harness instead of his usual seated one, had quite a hairy flight apparently. There was a slight tailwind at take-off and he found running with this unfamiliar harness difficult. He stalled off the ramp and dived to a chorus of 'oohs' and 'aahs' from the dignitaries surrounding the ramp. Photo © Bettina Gray.

I know you won't believe this



AH! CONDOR!

Dear Sir,

Here's a suggestion for anybody who's just spent £700 plus on a glider and hasn't anywhere to store it. Up your pipe!

I believe that Hepworths (no, not the tailors) make 9" diameter plastic pipe. They certainly make 8" — 6 metre lengths. A length of this, which can be bought sealed at one end would, with one end removable, make an ideal storage container for a glider. At home, it could just lie in the garden (and it wouldn't matter if the dog peed on it); on the car, it would be weathertight, streamlined and non-flexing. Not least important, it couldn't be slashed by some idle vandal with a pen-knife. The hitch? Well, I priced the 8" pipe at around £35, so I imagine 9" will be nearer £45 — say 7 to 8% of the cost of the glider. There's also the added weight to consider. But what price for peace of mind?

So, should some entrepreneur decide to produce this commercially I wouldn't refuse say 2% of the profits.

PAUL M. FROGGAT
Bracknell

COMET COMMENT

Dear Sir,

I feel quite bewildered after reading some of the claims made in the Comet advertisements in the January Wings! I am prepared to admit that like most hang glider pilots I get ripped off and conned quite a lot of the time, but, of the six items listed in their advertisement I would ask for comparable tests on four of them. Going down the list: No. 1, this could just as easily apply to the Lightning. 2, O.K., definitely correct. No. 3, open to question. Has the

Letters.

Comet actually flown with the Typhoon, Lightning and Demon in identical conditions? No. 4, Ha! Ha! now we have him. On page 19 January Wings! the Lightning was definitely the fastest rag wing tested. So O.K., the Comet was not there. Does that imply that if it is not there to be compared it must therefore be better? No. 5, O.K. then prove it and I will buy one. No. 6, Ho! It's fortune telling now is it? Come on Editor sort it all out, first it was the Lightning with its P1 rating now this, do the advertising staff ever read the advertising standards?

During my six years in Hang Gliding I cannot recall seeing an advertisement for Gliders that subsequently lived up to its advertisers claims (possible exception would be the Gryphon). What we do get from time to time is comment expounding old claims as advertising licence, so do we now wait two or three years to be told that yet again these claims are advertising licence.

I have been rading the U.S.A. magazines Glider Rider and Hang Gliding for quite a few years and I must admit the Comet sounds Red Hot but don't lets all get carried away by our own exhuberance, to the discredit of other manufacturers!

Oh! before I sign off, how do they know that anybody actually DESERVES anything, also how do I beat Bob Calvert if he also buys a Comet, or will they promise not to supply him with one.

B. RENSHAW
George Caley Sailing Club

Ed. What a load of old drivel! I wouldn't have printed this, but I needed to fill space urgently — desperately.

KEEL MOUNTED ENGINE

Dear Sir,

Since my article in January "Wings!" about John Long's powered hang gliding, he has been inundated with enquiries as to how to go about flying with keel-mounted engines. His advice is typically direct . . . "Don't."

The article was written over a year ago, before we had heard of trikes. John first saw them at Wellesbourne, ordered one, and vowed never to fly his Eagle/Soarmaster again. He saw the purchase of the trike as an investment which would increase his chances of reaching old age.

As a matter of interest John's Eagle/Soarmaster is now on show in the Yeovilton Fleet Air Arm Museum. It is fitting that it should be retired at the scene of it's greatest moments, the Yeovilton Air Displays.

Simon Murphy,
D. & S.C.

SUSPENDED ANIMATION

Dear Editor,

I have so far only been able to glance at Chairman Roy Hill's account of my role in the Aycliffe affair, but I have to say I'm surprised you ran anything of this length and detail on the subject before the Spooner Commission reported on *the facts* in the affair. Chairman Hill's account is based on the two days of "bear-baiting" at the AGM. I had been under the impression that real decisions on my role would take place after Reggie Spooner reported, and that accounts for my surprise at Mr Hill's account of "events".

The convention in normal journalism is that, while a case is *sub judice*, which, in effect, this is, reporting is limited to bare facts. I intend to stick to that convention and limit my comment until after the Commission concludes its investigations. I had assumed, obviously wrongly, that Chairman Hill would too.

One fact, though, I should like all readers to be aware of. I have *not* resigned from any of the positions I held in the BHGA. I understand Roy Hill maintains I have resigned from Council and the editorship. This isn't so. I had intended to, because I was so over-worked, but instead of accepting my verbal offer of resignation Council and Chairman suspended me. If they had accepted my resignation, they could not suspend me. By suspending me, they have, *ipso facto*, not accepted my resignation. You cannot, after all, suspend someone from a job he doesn't hold, and I would not have held the two jobs if they had accepted my resignations.

Four days after the AGM I wrote to Roy Hill withdrawing, unconditionally, all my resignations, until after the report of the Spooner Commission. As soon as the Commission reports, BHGA Council must then decide whether it contains enough damning "evidence" to sack me. . . or re-instate me. I remain in a state of suspended animation, a physical condition made rather more uncomfortable by the number of knives sticking out of my back.

Brian Milton.

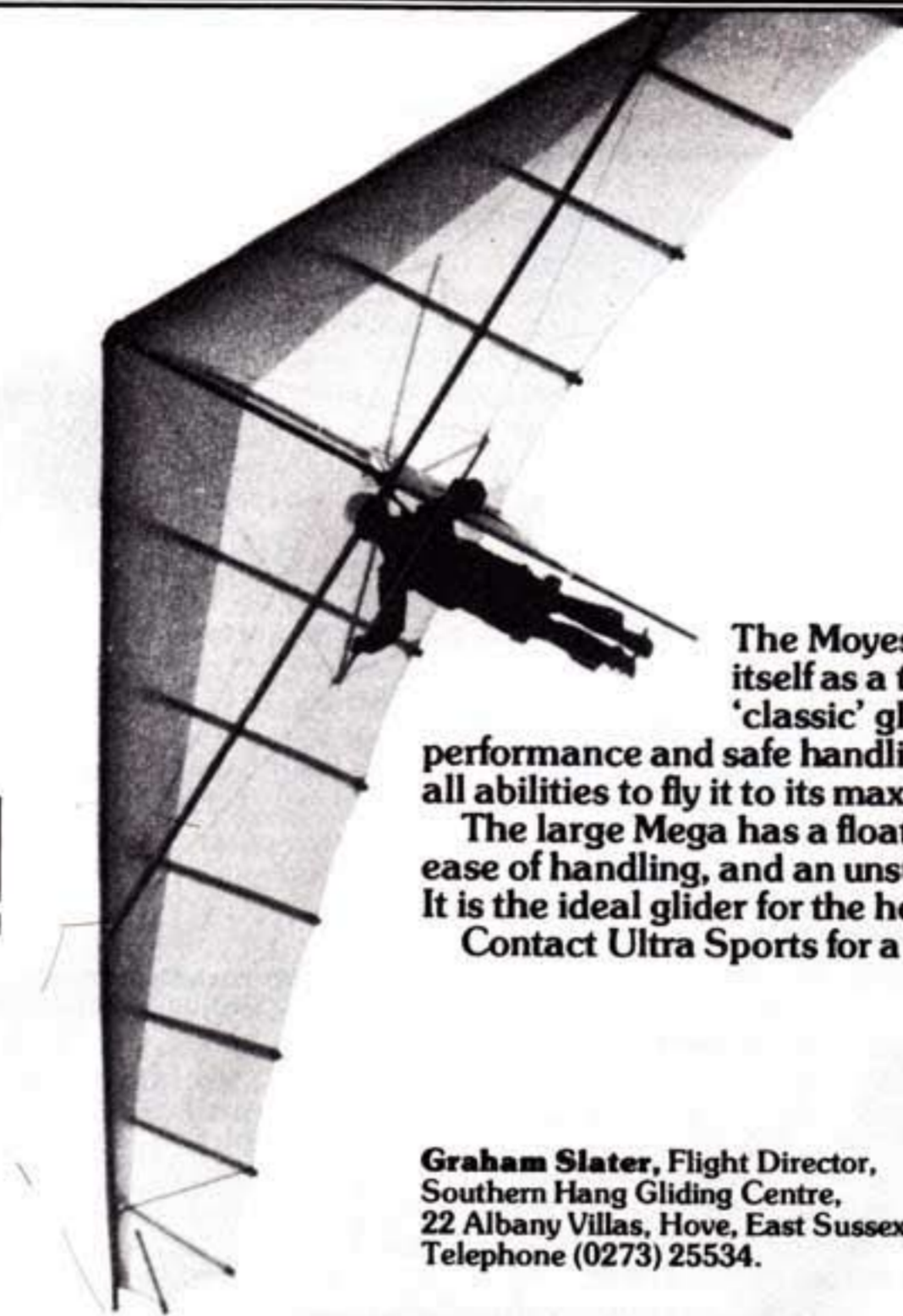
ED—The statement printed in last month's Wings! was an official BHGA declaration of the facts reported at the AGM.

Brian has been suspended from Council, Wings! Editorship, Chairmanship of the Competitions Committee and as BHGA Press Officer PENDING the results of a Committee of Enquiry, headed by Reggie Spooner.

ULTRA
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MOYES MEGA MAKES IT!

THIS GLIDER HAS
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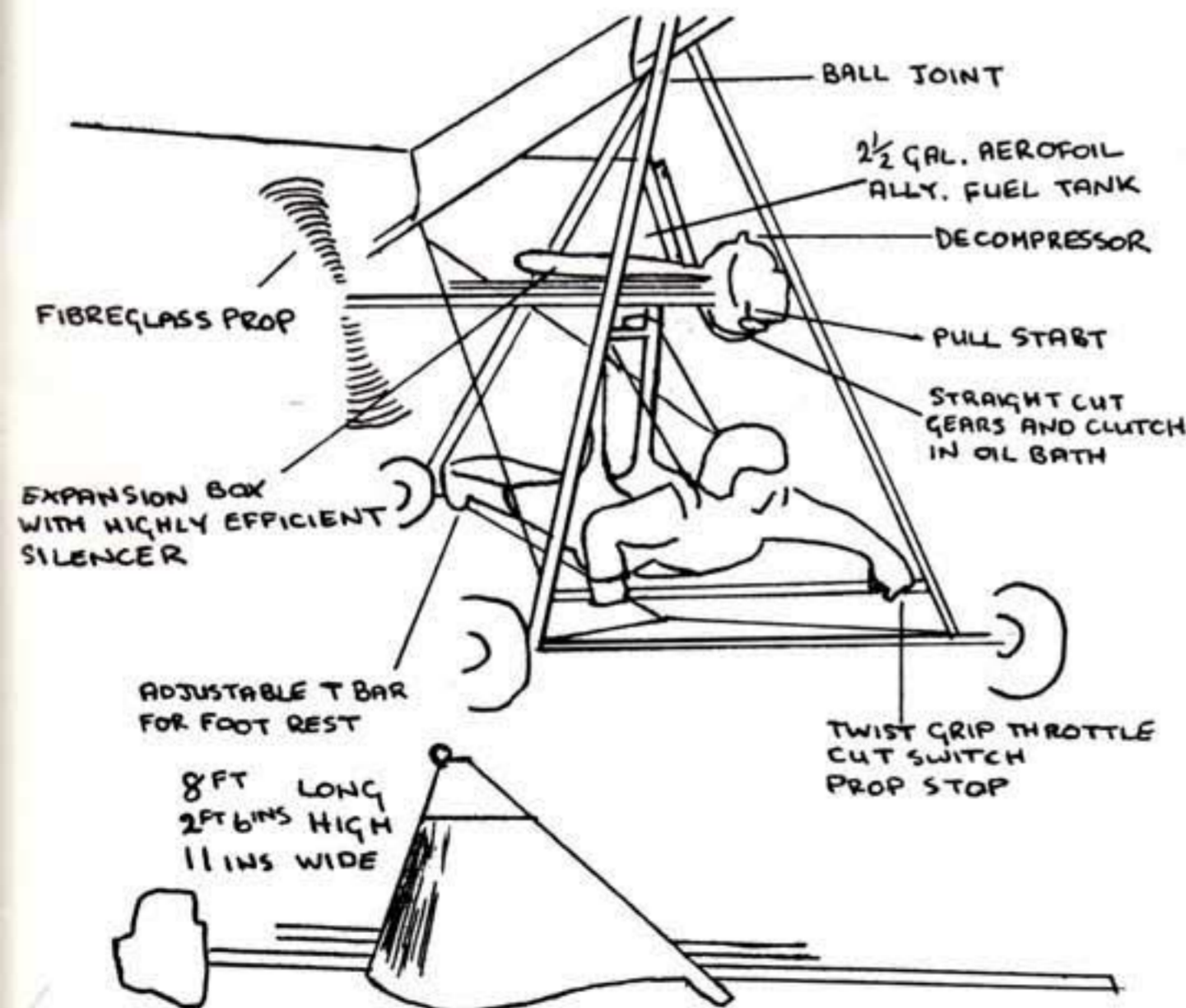
The Moyes Mega II has proved itself as a thoroughbred and a 'classic' glider. Its all-round performance and safe handling enable pilots of all abilities to fly it to its maximum.

The large Mega has a floating cross tube for ease of handling, and an unsurpassed sink rate. It is the ideal glider for the heavier pilot.

Contact Ultra Sports for a test flight.

Graham Slater, Flight Director,
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Telephone (0273) 25534.

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Add to this controls that allow you air starts, carburetor adjustment and prop. stop?

We have 4 such units for you to try, fitted to Vortex's and Cyclone's.

Write or phone for test flight to

Dunstable Hang Gliding School Ltd,
55 Spring Lane, Great Horwood,
Milton Keynes, MK17 0QP.
Telephone: Winslow (029671) 2086.

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SIGMA 12M White, orange tips, red trailing edge. Approximately 30 hrs. flying time. Excellent buy at £475. Tel: Greenham (Som) 672046 (and keep trying!).

FLEDGE 2B. 9 months old, good condition, l/blue, d/blue, white, easy to fly, still the fastest - ideal for power. (Finance forces sale). £700. Phone: Mulben .51 (Morayshire).

TRIKING, cross-country or ridge soaring? You need an **ALTIMETER**. Buy the best. The Thommen 1,000 and 2,000 or the Diplex. Phone: Huntingdon 72225.

If a **VULCAN** you wish to fly, Come and give my one a try! I wish to sell my trusty kite. And at a price that is just right. Contact me without delay. Then we can both go out to play! Phone: Colin Lark, Dursley (0453) 46592.

Prone web **HARNESS** £20; Seated **HARNESS**, new £10; Ventimeter £7; 2 140° sails £30. R. Garland, 81 Lacey Rd., Stockwood, Bristol.

SKYHOOK SUNSPOT (medium) for sale. Excellent condition, no bends. Very attractive sail. Complete with kite bag. Bargain at £275. (84) 229.

Large **SKYHOOK SUNSPOT**, good condition, with seated harness if required. £325. Phone Ralph, on Ripley (0773) 813191.

MIDAS E for sale, plus bag and harness. All in good condition - would suit new P1. Any reasonable offer. Write to Jonathan Powell, Churchill Hall, Stoke Park Rd., Bristol BS9 1JG.

SIGMA 12M. V.g.c. Must sell as bought new Demon for the League. Therefore £485 ono. For demonstration ring: Kendal (0539) 27803.

Medium **CHEROKEE**. 14 months old, attractive sail, very good condition. £425 ono. Chris Taylor, tel: Kendal 27803, ask for Roy, leave number.

Medium **ATLAS**, April 1980. Very good condition. Several XCs. £500 ono. Possibly deliver. Contact Dave Bluett. Tel: Paddock Wood 4240.

WANTED. Cherokee medium. Must be in good condition. Phone: Lapworth 2760.

ATLAS, medium, blue and white, good condition, £500 ono. Howard Petith, Swansea 25678, ext.7059 or ext.667.

ARMCHAIR flying in a Dicksons supine **HARNESS**, only danger you may fall asleep. Contact: Newport 0633 854671 or Nottingham 0602 623920. £30 ono.

LOST. Horcum. 18th Jan. **EMU** Orange-red-d/blue-l/blue. Sunspot l/blue. Please phone: 0246-36308.

CYCLONE 180. 18 months old; high flier in good condition; comes with spares of flutter free sail. Urgent need of greenies, therefore £295 secures. Woking (Surrey) 22204.

WASP FALCON III. Excellent condition, all white sail. Forgiving - suit beginner. £150. St. Albans 59323.

MIDAS E. Multi-colour sail. Good condition. House purchase forces sale, hence £180. Tel: Chard 2280.

Medium **HILANDER**. Four months old. £450. If interested, phone Northampton 858812 and ask for Ben Ashman.

SUPER SCORPION C, excellent performer and in sound condition. £295. Phone: Stoke-on-Trent 502853 (evenings).

Hiway **SUPERSCORPION C+**. Dacron sail, beautiful condition, effortless to fly for beginner or P2. £430 ono. Ring Plymouth 701022 anytime.

SKYTRIKE. Hiway trike and Solar Storm combination. Four months old with only 10 hours of engine use. Immaculate condition. Finance forces sale. £1,325. Price to include instrument stalk, winter ASI, altimeter and petrol can. Tel: 01-527-6681.

ARBEE INSTRUMENTS. Self zeroing Audio/Visual Vario mounted on stalk. Audio on up and down (different tones) - £97. As above but fitted with Diplex altimeter and 240° meter - £168. A.S.I. 5 to 55 mph with settable audio stall warning indicator. Can be supplied fitted to either of the above instruments or for direct mounting - £76. All prices include p. & p; s.a.e. for further information. Arbee Developments, 18 Stephens Crescent, Horndon-on-the-Hill, Stanford-le-Hope, Essex.

Large **VECTOR**, late model in excellent condition. Amazing L/D, suit intermediate/advanced pilot. £350 ono. Tel: Martin Saul, Cobham 3436.

12M SIGMA. Sell for £480. Ring Kingsclere (0635) 297349 (evenings).

CHEROKEE II, the last production Cherokee, with pre-formed battens and pulley system, little used, superb performance, immaculate £495.

GRYPHON 160, as new and still a terrific performer, original, undamaged, spares. £395. Stafford 45819.

Brand new **HILANDER**. Test flown and ready to fly. 10% off usual price. Phone: Kevin Moloney, Flexi-form agent for the South. Toddington (05255) 4703.

BIG ATLAS 18. Excellent performer - no dinks. Strongest glider available for triking/dual flying. Bargain at £620. Consider sensible part exchange. Electronic audio/visual variometer, perfect £85.00. Len Hull - 0298 871289 or (0709) 2966 work.

MOONRAKER 78. Absolutely as new and unmarked. White with red leading edges. £250 ono. Might swap/p.x. for good P1 kite. Ivybridge 3791 (Devon).

12 Meter **SIGMA**. 9 months old. £550 ono. Tel: Guiseley 74030.

Hiway **SPECTRUM Mk11**. Large including seated harness and B bar. Very good condition, attractive sail, colours. £295. Kevin, 01-590-6275.

CYCLONE II. Multi-coloured sail, bought July '80, new condition, easy handling, with top performance. £480. Bargain. 01-684-4772 (Croydon) after 8 a.m.

SIGMA 12M, white sail, real applied leading edges, gold tips, rainbow Sigma emblem, composite battens, purchased June '80. £480. Phone Dave, Brighton 602562.

SUNSPOT, small. Very clean, never been pranged. Keel out, dark blue, light blue, white, red. £285 for quick sale. Phone Dave Bryant, on Forton (Lancs) 792083.

CROSSCOUNTRY SUPERSHIP. Superb Sigma 12M. Low hours, £525. Ilfracombe 63104 (Mike). Also **SCORPION** (ex.large) £225.

SKYHOOK CUTLASS (large). Excellent condition. £575 ono. Also Medium Cherokee, good condition. £400 ono, including spares. Phone: Swansea 0792 793281.

McBROOK ARGUS, collecting dust in garage! Ready to fly, complete with electric air speed indicator, flight manual and construction manual. Offers. R. Craig-Wood, tel: Normandy (048642 3356 - home; Woking (04862 71555 - work.

250 cc **SKYTRIKE/CHEROKEE**. Not yet run in (approx. 4 hours). Instruments and parachute; cost in excess of £1,800, owing going rigid (wing, that is). Handles very well, £1,400. Crowthorne 71268.

I have spent my Holiday '81 money to purchase a new glider. Divorce imminent if I don't sell my immaculate large **SPIRIT**. Mint condition. Looks and flies really well. £250 ono, incl. seated harness. Jeff Metcalfe, Desford 3748 - home; Leicester 873561 - work.

MOONRAKER '78 medium. Excellent throughout. Multi-coloured sail. Nicely tuned. Superb performance. Suit 11-12 stone pilot (P2). £200 only. Bob Wishart, Bristol (0272) 621861 (evenings and weekends).

GANNET. Good condition, handling and performance. Will demonstrate, or view Dunstable, Thames Valley area. Bargain, £295. Phone: Dennis Munn, Uxbridge 39896.

PHOENIX 8. White with blue tips and keel pocket; flies beautifully. Any trial. Must sell; emigrating. £325 ono. Runcorn 716682 or 711831.

ATLAS 16 competition under a year old. Hiway nose catch, spare keel and skytrike conversion. Very good condition. £550. Bristol 696866.

Large **SKYLINE** for sale. All red sail with black leading edges. Excellent condition, handles beautifully. £400 ono. Ring Jon Blackwell, Nottingham 205435.

WASP FALCON IV in excellent condition for sale. Flying time only 12 hours. Tel: Basingstoke 26896 or 29211, ext.256.

A.D. MICROLIGHT Aircraft have vacancies for microlight instructor training. Fixed wing experience preferred plus BHGA P.2. Interview applications to: Secretary, A.D. Microlights, Thruxton Airport, Andover, Hants. Tel: Weyhill (026 477) 3472.

Demon! Sabre Typhoon.

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Vince Hallam's **SUSSEX COLLEGE OF HANG GLIDING**, 18B Queen's Road, Brighton. Sales, Spares, Teaching, Sigma, Hiway, Chargus, Quad pod. One **STRIPLIN FLAC**, Sigma 12M, new, £450. Sigma Floater, New, £575. Incredible **NEW SIGMA** Mini Floater for girls, 26ft, 140ft, 35lbs! Main agents, Sussex College of Hang Gliding, Brighton 609925/24151, ext. 171.

HIWAY in the Midlands. Demons, Superscorp, Trikes. New and second hand. Kites from £350. Demon 160 £695. Superscorp, MK11 £525. Storm (unused) £560. Superscorp B £400. Many more, Keith Vinning, 021-523-0293.

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SPOT COLOUR

In this month's issue the colour used on the cover has been included on inside front and inside back pages. Please contact **Sylvia Howard**, Commercial Editor, if you would like to 'spice up' your ads by using this colour.

ELECTRA FLYER SPIRIT

£200, test flown only, sail two tone blue, £530. Windhaven 24in Parachute, brand new, £195. Reluctantly grounded on medical advice. Washington (0632) 470886.

BARGAINS in the N.G.S. 2nd hand **CLEARANCE!** Falcon 4, good, £175; Vortex 120, good, £360; Vortex 120, good, £350; large Sunspot, good, £250; large Sunspot, £225; large Skyline, good, £325; medium Skyline, £325; medium Cherokee, good, £375; medium Cherokee, £325; medium Spirit, mint, £235; medium Storm, mint, £460; medium Storm, good, £435; S. Scorpion C, good, £400; Atlas 18, mint, £670 (fibreglass); Atlas 18, v/good, £650 (fibreglass); Atlas 16, good, £550; Lightning 195, mint, £700. All the above gliders are in sound condition and have the NGS guarantee of having been **THOROUGHLY** checked and test flown. Contact N.G.S., 061-973 4085 or 061-434 3364.

VACANCIES for **INSTRUCTORS/SENIOR INSTRUCTORS/TRAINEEES**. Full/part time or weekend only. Excellent wages. 5 day week. Power branch opening soon. Telephone: Derek Bond, British Hang Gliding School, Biggin Hill 73996.

HANG-GLIDE IN KITZBUHEL, AUSTRIA. Famous centre for hang-gliding. School and factory nearby run by Christian Steinbach, former World Champion. Fully furnished Tyrolean-style chalet-apartment to let. Set on sundrenched plateau with spectacular views. Sleeps 4. Only 1½ hours drive from Munich. Tel: Bagshot 73262 or Ballywalter 388.

PEAK DISTRICT NATIONAL PARK - CRESSBROOK HALL. You don't have to travel many miles or spend a fortune to enjoy a really good holiday. Try the self catering facilities at Cressbrook Hall. Numerous classic sites within 15 mile radius and plenty of alternatives, i.e. walking, cycling, riding for the rest of the family. Tel: Len Hull, 0298 871289.

BRAMWOOD GUEST HOUSE, 6 miles Hole of Horcum, 16 miles Sutton Bank. Bring the family; they will enjoy Pickering while you enjoy your flying. Storage for hang gliders. AA listed. B&B or BB&EM. 19 Hallgarth, Pickering, N. Yorks. Tel: 0751 74066.

SCOTTISH GLIDING UNION. Your "Brothers-in-Law" offer 5-day courses from £75 as Britain's premier soaring site. Ring or write for a brochure: S.G.U., Scotlandwell, Kinross (059284) 543.

DRAWINGS and CONSTRUCTION notes for 'Wing Wagon' (Tricycle power unit for hang glider), 123 lbs thrust, total weight 78 lbs. Send £5. Pulleys, bearings, Lord antivibration mounts, propellers etc. available. Also the famous lightweight McCulloch engine (12 h.p., 12 lbs 4 ozs), s.a.e. for details - Ernie Patterson, 95-97 Killyleagh Road, Killinchy, Co. Down, BT23 6TR.

FLY IN THE ISLAND. 100 yards to the sea, lawned garden, sun and TV lounge, licensed. Use of workshop for the pilot. Phone or write for brochure. Keith Brettell, Saunders Hotel, Coastguard Lane, Freshwater Bay, Isle of Wight, PO40 9QX. Tel: 0983 752322. Party bookings, children and pets welcome. Any day, any stay.

BAILEY'S Y.H.G.C. are running thermal and XC flying courses this summer in beautiful Yorkshire. £5 a day. Make a holiday of it. B&B or camping arrangements taken care of. Details: 2, Denton Ave., Leeds 8. Tel: 662518.

CHEROKEE MEDIUM - amazing flier (2 flights over 1 hour); attractive multi-coloured Dacron sail - £440, also Galaxy flier helmet (size 4) - £12 and good flying boots (size 9) - £11. Please contact: John Galvin on Warrington 38410.

STOP PRESS — BHGA

Council member, Howard Edwards, Nick Gifford and Rory McCarthy attempt flight off 14,000ft. Alpine peak. . . McCarthy and Guide forced to spend night on mountain in sub-zero temperatures. . . Parachute used as insulation (life saver) Full report in next month's *Wings!* . . . STOP.

TRADE IN'S
Atlas £510 S/Scorp £250
Atlas £495 Storm £485
Atlas £650 Spirit £195
Atlas £525 Sigma £425
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Demon



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telephone: Tredegar (049 525) 4521



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