

# WINGS!

MARCH 1978

MAGAZINE



# SPIRIT & VECTOR

## SPIRIT

Probably the best intermediate on the market, no other glider offers the aspiring pilot quite so much.

Performance, pleasant characteristics and budget price.

The Spirit is by no means last years model handed down.

In the recent open internationals in Spain, instructor Sacha de Ridda flew his Spirit to 1st. place in the duration and 2nd. overall - against such opposition as the Moyes Maxi, Phoenix 8 and Cumulus 10.

## VECTOR

Developed for the experienced club and competition flyer, the Vector matches any machine for performance, generally has the edge on handling - and wins hands down on price.

If you want pleasant weekend flying, the Vector flies that bit easier and goes that bit further.

And when you want to win, the Vector will be up there at the top.

In fact, in every competition where speed, duration and distance counted last year, Vectors were in the top five, every time.



SPIRIT

BHGA registered. £330 in kit option. Price includes factory / agent assembly & tuning, kite bag, sail colour choice & VAT.

VECTOR

BHGA registered. £430 in kit option. Price includes factory / agent assembly & tuning, kite bag, sail colour choice & VAT.

FLEXI•FORM SKYSAILS

Unit 24 Nassau Mill, Cawdor St.

Patricroft, Manchester.

061•707•1389

## New 'SKY' VARIO

The SKY audio-visual Vario at the right price  
£95 + VAT

- Ultra Sensitive
- Compact (one unit) 5" x 2.25" x 3.5"
- Easy to read
- Strong
- Audio on up only
- Adjustable threshold
- Only 800grms

available from  
THE HIGH SCHOOL OF HANG GLIDING,  
Sion Lane, Clifton, Bristol. Tel: Bristol 37870



# THE UK HANG GLIDING RALLY AT PERRAN SANDS. THE BIGGEST PRIZE MONEY IN EUROPE, AND THE CHEAPEST HOLIDAY IN THE WORLD.

Ladbroke Holidays and the Kernow Hang Gliding Association have got together to present the biggest hang gliding event of the year.

It's at Perran Sands in Cornwall between 11th and 14th of May.

And, since Ladbroke happen to have a holiday village right there, we're able to offer spectators and competitors fantastic accommodation at an absurdly low price.

Caravans for up to six people from only £14. (That's not just for a day, it's for the whole weekend, Thursday to Sunday.)

And while you're there, you'll have full use of all the facilities in the village. Entertainment day and night, and plenty to keep the kids happy.

If you'd like to know more, send us the coupon.

 **Ladbroke Holidays**

To: Perran Sands Holiday Village, Perranporth, Cornwall TR6 0AQ.  
Tel. Perranporth (087 257) 3551.

Please send me details of the Hang Gliding Rally.

Name \_\_\_\_\_

Address \_\_\_\_\_

HGO1

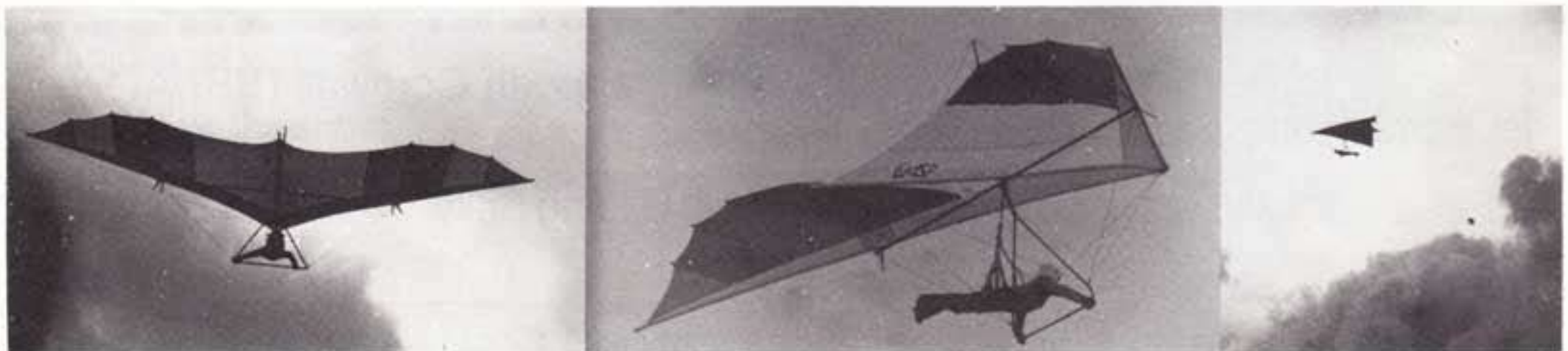


## The Wasp Gryphon III

Developed from Miles Handley's brilliant original concept is Gryphon III, a unique hybrid hang glider which embodies the best features of both flexwing and rigid wing types. The cable braced airframe has meant the elimination of crossbooms together with their attendant drag, weight and rigging penalties.

Gryphon III has superior performance in every respect. Speed range is unbelievable. Manoeuvrability is outrageous. A hot dog pilot's dream. For soaring pilots it can be flown relaxed and drifted into the flattest 360°s ever. Remarkable for a wing that can be banked to 90° faster than anything around. All this together with strength, a lift/drag ratio better than 11-1 and a sink rate of around 2.5 f.p.s. make it a perfect cross country machine.

Available also for intermediate pilots — the Falcon IV, the Falcon IV 'Junior' and the Falcon III 'Sport'.





# WINGS!

The official magazine of the BHGA

**Editorial Office:** 14 Earlsthorpe Road, Sydenham, London SE26  
**Editor:** David Worth; **Commercial Editor:** Lesley Bridges, Yard House,  
Wentnor, Nr. Bishops Castle, Shropshire. Telephone: Linley 322. 058861.  
**Editorial Board:** Jeannie Knight, Tony Fuell, David Worth.  
**Area Reporters:** Scotland, Ian Trotter; North, John Hudson;  
West Country, Bob Wishart; Eire, Roy Hammond  
**News Roundup Editor:** Derek Stacey, 59 The Horseshoe, Leverstock Green,  
Hemel Hempstead, Herts.

1978 Look No.2: Paul Maratos's Flexiform Vector seeks those elusive blobs. Photo: Mark Woodhams

- 
- 7 Airmail
- 
- 9 Wing Tips
- 
- 12 News Roundup
- 
- 14 Parachutes by Tony Fuell
- 
- 18 A Day Beside the Sea
- 
- 21 Book Review
- 
- 25 Information
- 
- 26 Classified Ads
- 



167a Cheddon Road,  
Taunton, Somerset,  
TA2 7AH.

**Wings!** is published by the British Hang Gliding Association. The views expressed are not necessarily those of the BHGA Council, its officers, members or the editor. Contributions are welcome. Articles should be typewritten if possible; photographs and cartoons should be accompanied by appropriate captions and any material which is to be returned should be accompanied by a stamped and self-addressed envelope. The editor reserves the right to edit contributions where necessary. The magazine can be obtained by joining the BHGA. **BHGA:** President: Ann Welch, Chairman: Pat King, Treasurer: Derek Evans, Council: Gordon Wyse, Brian Milton (Press Officer), Chris Corston (Secretary), Jeff Marvin, Reggie Spooner (Insurance), Jeannie Knight, Malcolm Hawksworth, Will Jones, Colin McCormack. Flight Training Officer: Keith Cockcroft, Accident Investigation Officers: John Hunter and Tony Fuell, Registration Officer: Terry Dibden, Solicitor: Anthony McLaren, Technical and Safety Officer: Ted Shreeve, Medical Adviser: Dunstan Hadley, Radio Communications Officer: John Westcott. All enquiries other than to members of the magazine staff should be addressed to Taunton.

# EDITORIAL

The AGM usually marks the end of another hang gliding year and gives the opportunity to take stock of the preceding year and look forward to the future. As I have now been editor of *Wings!* for exactly a year, I thought that I would also reflect a little on the progress of our magazine.

Undoubtedly the new A4 look has been a success and helped by a few memorable articles it has been a good year for *Wings!* This has only just happened though. Behind the scenes it has been the same story nearly every month: Will I have anything interesting for this issue? What photograph shall I use for this cover? Who can give me a report on this event? Fortunately, at the last minute something does turn up and the day is saved, but only just. I have mainly to thank regular contributors like Tony Fuell, John Hudson and Ian Trotter. If you took their contributions out of last year's mags they would look a bit thin. This issue would be almost non-existent (Thanks, Tony).

When I took on the editorship I secretly vowed I would never complain about lack of contributions, thinking that by approaching people personally I would achieve better results without the griping. However that has not worked as well as I had hoped. It always seems to be promises, promises. I therefore would ask for volunteers to research and write up particular projects which I feel would be of particular interest to the membership. I ask all of you who go abroad to fly to send *Wings!* a letter describing your experiences. I ask anybody who has any news of interest to send it

in and finally I would ask all the contributing photographers to keep up the flow of pictures.

I am commonly questioned on whether I get paid for doing *Wings!* To put the record straight, I do get paid a sum for doing the artwork (which means pasting up the pages and layout as you see them in the magazine). This money only covers that aspect of the job and is less than I would charge if I were costing the job privately. The editing, chasing of articles, and other duties are voluntary like the many other posts in the BHGA. Another question I am continually asked is 'Why isn't there more in the magazine? I can read it in a morning'. Apart from the reasons mentioned already, we are limited to a 28-page magazine because of postal charges. An extra 4 pages would cost the BHGA an extra unbudgeted-for £100 in increased postal costs. With 10 pages of advertising, two pages of classified ads, one page of Information, there is not much room for an expansion of articles. The magazine is also at the size where any significant increase in content would mean that the editor would have to be at least partially employed, unless he never wanted to go flying and have no social life.

In the coming year I plan to have detailed kite reports, visits to manufacturing establishments, a regular agony column (Do you want to ask an expert pilot a question? If so, send it in), more on cross-country techniques, a close following of the British Hang Gliding League, which is attracting worldwide attention, more interviews and lots lots more. If you want to help, contact me.

ONE OF BRITAIN'S LEADING HANG GLIDING CENTRES

AND THESE ARE SOME OF THE REASONS WHY

Small personal courses with a low student/instructor ratio

Instructors that are among the most experienced in the country

The Chief Flying Instructor is a PPL holder and qualified sailplane instructor with over 1,000 hours flying experience

Local training and advanced slopes facing every conceivable wind direction  
Our methods allow us to train you safely in virtually all weather conditions

No site fees Transport to and from the slopes in our mini bus

Kite hire available after completion of a course

Lunch and refreshments provided

Open 7 days a week

Situated in a superb position between the Black Mountains and Brecon Beacons, yet only 2½ hours from London and 1½ hours from Birmingham

Wide range of new and reconditioned gliders for sale

Used gliders bought for cash

We have a wide range of high performance gliders for hire including the Cirrus 11 and 111, Moonraker, Scorpion, SST and Hi-Flt

A club offering member benefits which other sports take for granted

Site information service

HIA approved instructors  
BHGA Registered School  
BHGMP Approved Equipment

FOR OUR COLOUR BROCHURE AND INFORMATION PACKAGE PLEASE SEND A STAMP TO THE ADDRESS SHOWN IN THIS ADVERT OR TELEPHONE US ON CRICKHOWELL (0873) 810019



**CANOLFAN BARCUTA CYMRU**  
**WELSH HANG-GLIDING CENTRE**

NEW ROAD CRICKHOWELL NR ABERGAVENNY S.WALES

## OH FUELLISH MAN, FUELLISH WORDS

Dear Sir, A shame to see *Wings!* allow such petty backstabbing to appear in print. I refer of course to Mr. Fuell's deteriorating oration in January which regrettably ended with his personal opinions of David Cook, his VJ23 and groundcrew. The tone of his challenge is one contrary to the spirit (and ironically safety) of the sport and statements such as this can only lead to foolhardy hostility, at times when a consolidated front is badly needed to promote the strength of our aims and ideals. Certainly, David's groundcrew are prepared to do whatever is necessary to ensure he and his aircraft are fit and ready to fly in circumstances only he has sole responsibility to decide on. Why? Simply — respect.

David's attitude to flying and to those he meets who are interested and want to fly or want to build or want to contribute ideas or just want to watch and help, is one of selfless generosity and understanding. In short, the right attitude.

Come to the minimal terrain of Suffolk's coastline; if someone needs groundcrew then David is there, and if that someone is David, then we are there — without a doubt.

Every flier needs groundcrew and their respect!

**Blip  
Suffolk**

## FUELL TO THE FIRE!

Dear Sir, I feel I should congratulate Tony Fuell for goading me into contributing to our magazine. I agree with the main points of his article in last month's edition of *Wings!* on accident prevention — a very useful letter. I hope the pilots in error will take heed and seek the information they require before making asses of themselves, giving the sport a bad name.

I don't however agree with the cutting anecdote to his article. David Cook's VJ23 is an excellent machine — especially with the addition of an engine. To say that this glider should be consigned to the dustbin is in my opinion totally contrary to the pioneer spirit which identifies hang gliders from present-day cockpit fliers. The design may be slightly old hat compared with the latest design of rogallo wings but it is still aerodynamically sound. What does Mr. Fuell have to say about RAF Flight Lieutenant David Lyster's present attempt to fly to Australia in a tiger moth biplane? Would he like to ban all pre-war designs as unsafe?

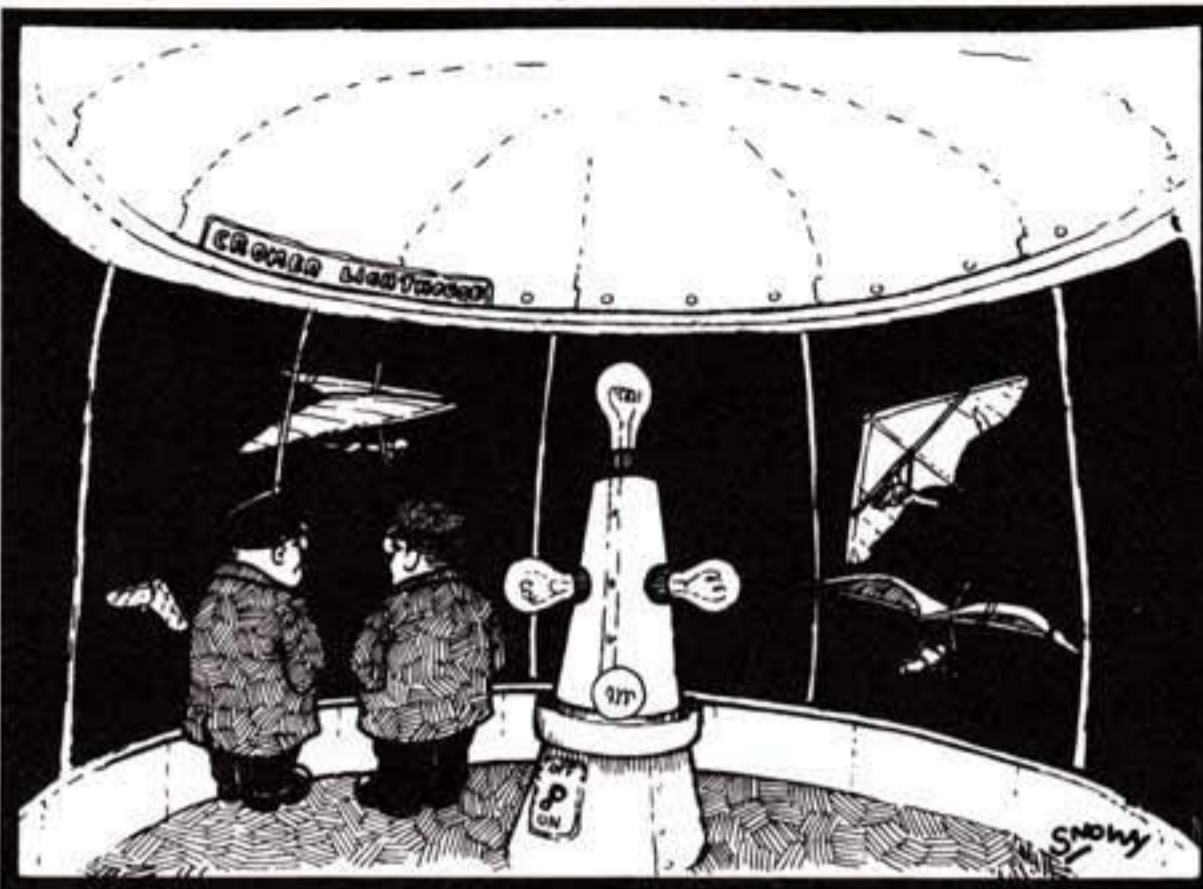
**Nick Mason  
Gloucs.**

## TWISTED EYELETS

Dear Sir, A problem which is frustrating, annoying, potentially dangerous, but fairly widespread amongst pilots' gliders is that of twisted rigging eyelets.

Many a time have I rigged my kite

Soddin' great moths out there tonight, George.



# AIRMAIL

to find on checking that an eyelet has become twisted in its tang, making me have to de-rig in order to fix it. Sometimes the eyelets are severely bent and deformed, but what is even more dangerous is that, with today's high performance machines, a twisted eyelet could seriously affect handling to the extent of causing an accident.

Having looked around a bit, I have at last come up with a simple, yet effective remedy. In most "do-it-yourself" stores it is possible to buy a silicone rubber paste for sealing around baths, wash basins, etc. By injecting this paste into the eyelets of the rigging wires whilst they are under some tension, it is possible to form a kind of rubber "boot". This "boot" when set is pliable, yet stops the eyelet from twisting. So far I have found this method has proved 100% successful.

**Bram Martom  
Argyll**

## FLYING SAFARI

Dear Sir, I'm trying to organise a hang gliding trip to Greece this Summer, passing through Switzerland.

I'd be extremely grateful if any readers with knowledge of hang gliding in these two countries would send me information on where the best sites are, conditions and the official attitude to hang gliding there.

**Malcolm Leigh  
Henry Price Building  
Leeds University  
Leeds**

## A GENERATION GAP

Dear Sir, I have since the age of ten been interested in the sport of hang gliding. For the last seven years I have been frantically trying to get airborne. Whilst living in Australia I made no

less than six gliders — some flew, some did not. When I came to England because the Rogallo here was much cheaper than the \$600 I'd have to pay back home I wrote off to all the manufacturers stating my age (14) and requirements, yet of all the firms that replied only Avon Kites bothered to tell me that the law stated that the minimum age to sell a glider was 17 and to fly one 16. Thank you Avon Kites . . .

As a result of this I decided to study in depth the design of the Hang Glider, and now at the age of 17 I can safely say that I know as much as most manufacturers. Well, in the past few years the old standard has been superceded by more advanced machines. As I am going into the R.A.F. as an aircraft technician I decided to build my own hang glider. It's called Alpha 170 and I have calculated its performance to be slightly better than any other hang glider in production in the world today. Yet because I do not have E.P.C. or *Wings!* ratings I am unable to have to have my sail made, because "he would get done" if he made this advanced sail and sold it to me

(no hard feelings to that helpful man). As I will be with the airforce I will have access to wind tunnels, fluid flow tanks, etc. which is probably more than most manufacturers can get their hands on. This means of course that I can fully have my glider tested for all thinkable conditions without it being more than 6ft. above the ground. Only after that would I engage the assistance of a pro-pilot to then fly and finish trimming it. Then there is the case of structural integrity. My glider was designed to withstand no less than positive or negative 6.5g's and be checked by a qualified aero-engineer. I reckon that to be strong, especially when some gliders are capable of negative 2g's. (A Peter Powell stunt kite is more likely to be stronger.)

At one time the home builder was in the majority but now it seems to me that manufacturers have the monopoly on hang gliding and if the home builder is wiped out the manufacturers will be able to charge what they want. Just for those who are interested the Alpha 170 would cost under £400 to build and that's better than £640 for certain gliders from the USA.

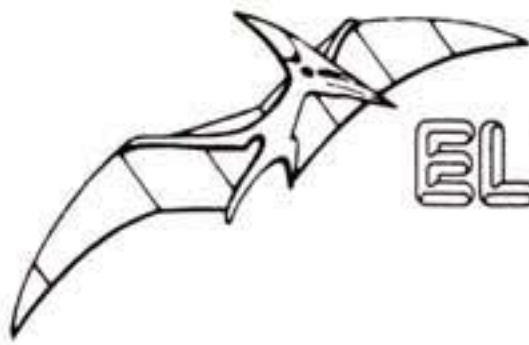
If someone can think back to the days when Dave Kilbourne, the Wills brothers, Taras Kiceniuk, etc., started, the main reason why they started was because hang gliding was free. Free of expensive aircraft hampering regulations and polluting the atmosphere. Something's gone wrong today. You can get hold of a nifty little Taylor monoplane for £600. How about it B.H.G.M.F.? — liberate the home builders, give them more freedom. You never know, Britain may one day lead the world in hang gliding. So all I ask is a chance to do my own thing . . .

**Paul Martin  
Blackpool**

*Ed: Your Alpha 170 sounds fascinating and we would like to hear more, especially if it is the highest performing hang glider in the world. However, it is only by having standards set by organisations such as the British Hang Glider Manufacturers' Association that we can protect the unwary consumer from less scrupulous 'designers' who are less worried about g's on their kite than cash in their pocket.*

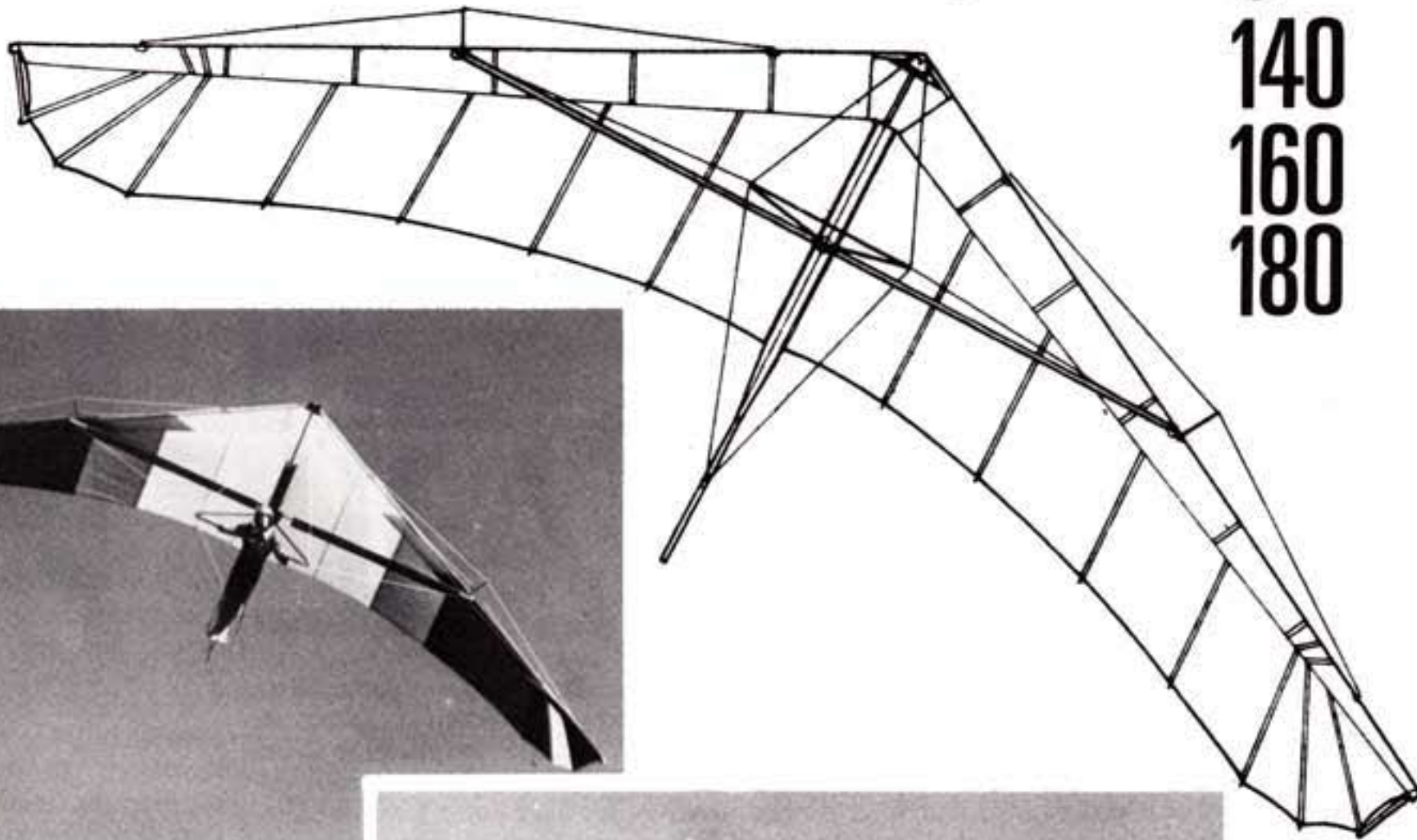
*Paul in March '75 at the tender age of 14*



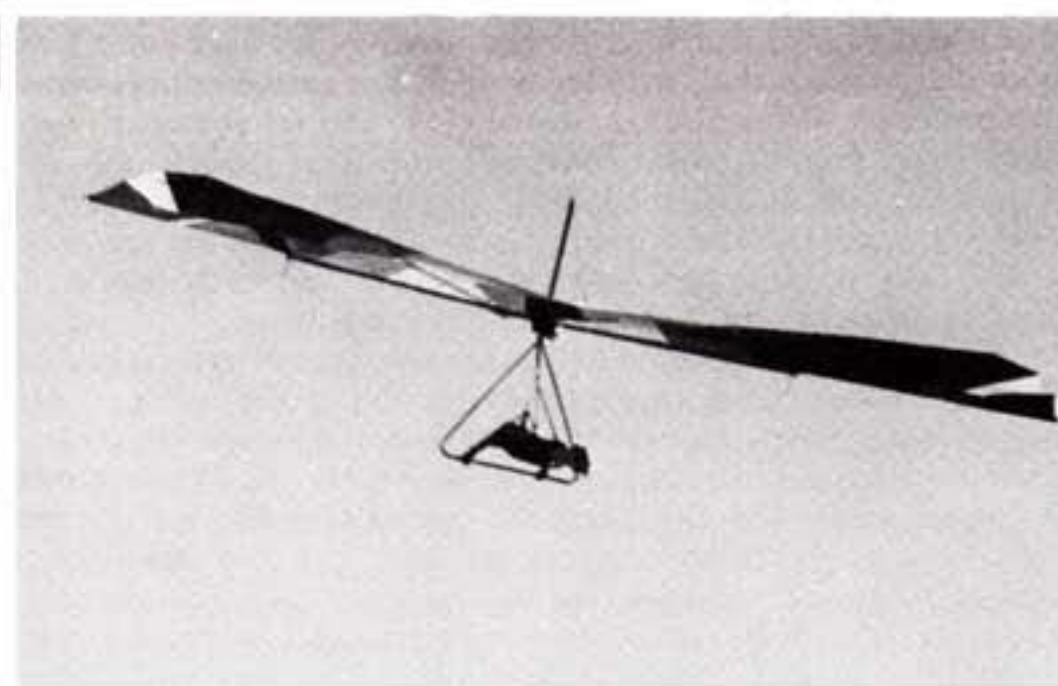
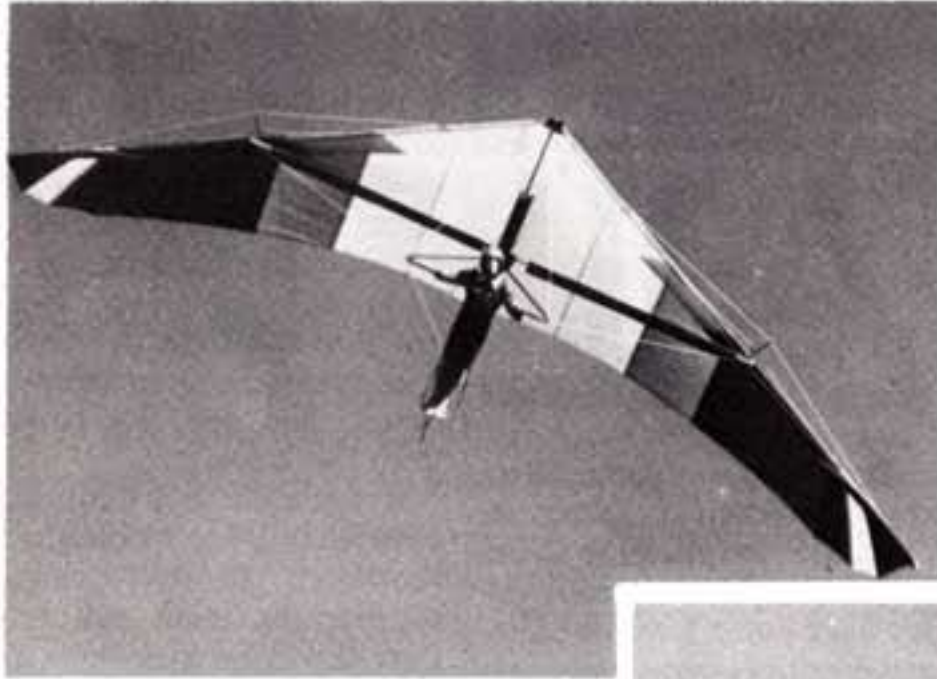


ELECTRA  
FLYER

# Olympus



140  
160  
180



## FEATURING:

the unique  
'swivel-tip' system  
for light responsive  
handling with  
superb stability.

**Whether you want to ~**

**\* SKY-OUT 9,000ft June 77**

**\* COMPETE 1st & 2nd Canadian Nationals**

**\* GO PLACES 65 miles June 77**

**the Olympus does it!**

for your electra-flying experience contact:

SOUTH GRAHAM SLATER  
Southern Hang Gliding  
School  
0273 25534

WALES GERRY BREEN  
Welsh Hang Gliding  
Centre  
0873 810019

N. LONDON BOB PATTISON  
Chiltern Glider  
Supplies  
0727 31995

Or: European Licenced Manufacturers:  
SCOT-KITES, 19 CAMPHILL AVE. GLASGOW G41 3AU Tel. 041 649 5136



# WING TIPS

## THERMALLING THE BOB BAILEY WAY

**T**he thermalling season is with us once again, and never has there been as many aspiring pilots just itching to leave the ridge on perhaps their first cross-country flight.

Preparation is the number one priority. Before the start of the day check glider, vario batteries, maps (memorised for planned route).

On the day check with the Met. man on wind strength, lapse rate etc. This will leave the mind clear to think about the flight ahead. Most of the good cross-country weather in England prevails when we are in a West to North air stream. The air is usually cold from this quarter, the lapse rate high thus the thermals strong.

When take-off is made on the first flight of the morning, it will soon be felt if it is to be a good thermal day. The air feels bubbly and sometimes quite rough.

This is where I find a vario an essential part of my natural feelings and senses to the surges and lifting movements of the air. When strong light is encountered during ridge soaring the glider should be turned into wind and slowed down to minimum sink speed to climb in the lifting air as fast as possible.

If the area of lift lasts long enough to pull you clear of the ridge a gentle 360 can be made to the side on which

you felt the best lift as it passed.

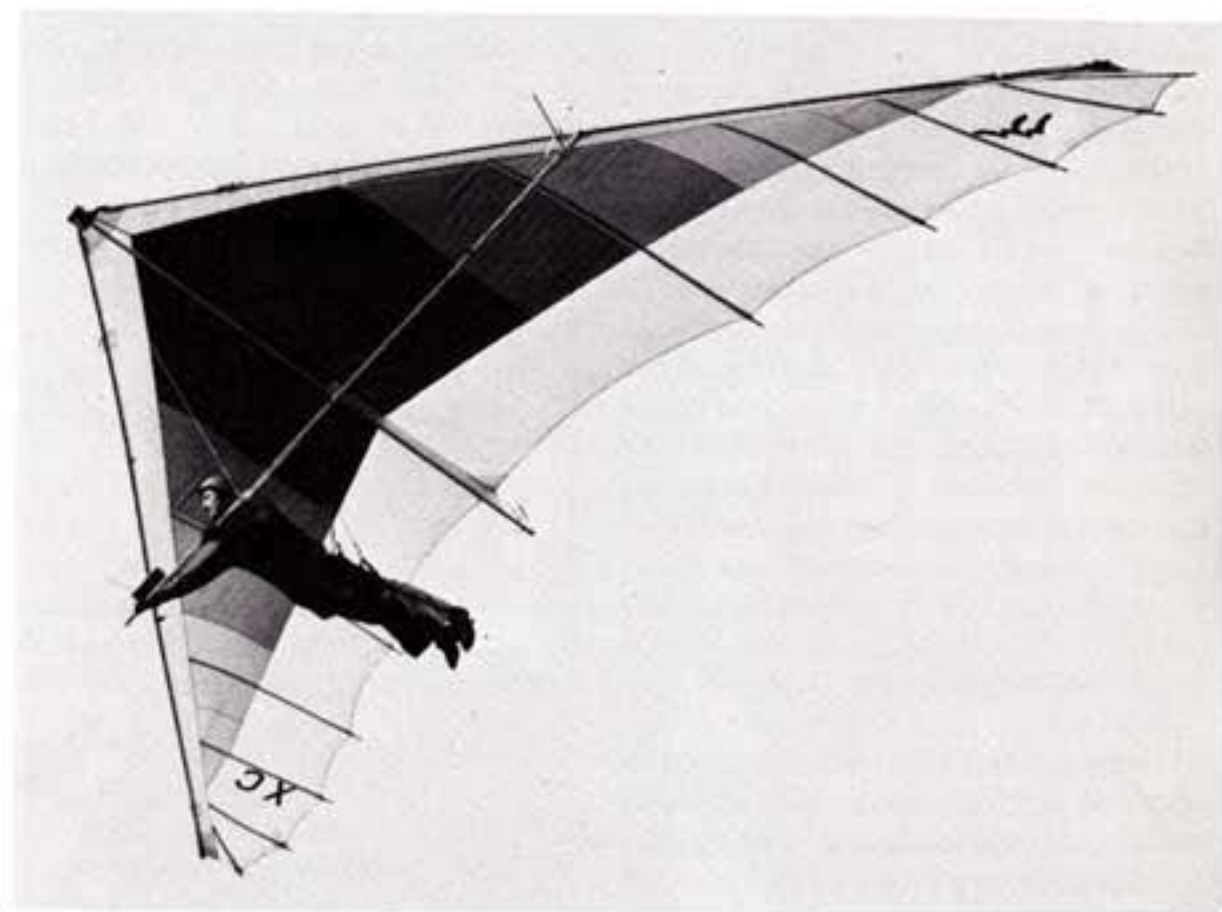
With practice and fine control you will be able to bring your glider back into the lift at the core (strongest part). Often on strong wind days the thermals are passing through the ridge lift, mixing with it and making life in the sky pretty rough, so they may be hard to distinguish as they pass quickly by.

On this type of a day I search for thermals as far out from the ridge as possible where the thermal is more easily recognised.

On the day I recorded my biggest height again (4,700 ft. a.s.l. from 975 a.s.l.), the thermal I picket up was very strong, small, and close to the ridge. I dropped behind the ridge at no more than 150 ft. above and continued centering into the core, climbing until at just half mile down wind I was at 3,000 ft. and in a gigantic thermal bubble, perhaps 300 yards across.

The thermal had become much smoother as well as larger with height and also settled down from 200 to 1,000 feet per minute up to a steady 600 f.p.m. all the way round gently banked 360 turns.

I continued the next mile downwind and I finally reached cloud base at 4,700 ft. At this point, lacking in experience at such heights, I made a wrong decision and flew cross wind



into heavy sink (14 miles). You just cannot beat experience in a situation to come up with the right answers. Next time — a couple of weeks later — I was in the same position at cloud base in a perfect cumulus filled sky. This time I was so relaxed and enjoying the whole flight, the glider was almost centering into the core by instinct. I thus went on to make the most enjoyable flight of 24 miles. That is not to say, I think you should leave the ridge with every bubble that floats

along. Far more experience can be built up, getting the mind and body accustomed to the feel of the extra height, whilst staying within the ridge lift and using the thermals to best advantage.

The physical and technical knowledge must be painstakingly built up on the ridge so when the day comes to go for it, your imagination can take over for a whole new adventure in the sky.

**Bob Bailey**

## INTER-THERMAL PROSPECTS

by Bob Calvert

1977 saw very few inter-thermal flights and although many substantial height gains were achieved the next thermal was still beyond reach.

Problems:-

1. Obviously performance and experience.

2. Especially in the North the cloudbase is relatively low, 3,500 a.s.l. on a very good day and take-off is 1500 a.s.l. Further south the cloudbase is higher and the prospects better. Cloud flying is really out of the question at the moment.

The critical factor in having left one thermal is have you enough height to reach/find the next thermal.

### How to improve your chances

1. Fly where the cloudbase is high enough above the ground so as to have enough height to glide to the next thermal.

2. The time of the day is important. I have had 3 flights (14, 16, 18 miles) before 10.30 a.m. and after 3.30 p.m. The cloudbase was quite low but the clouds were shallow in depth (not towering) indicating the thermals although smaller are much closer together and hopping from one thermal to another was no problem.

3. Know where every ridge is downwind in an arc even if it has not been flown. If for instance cloudbase cannot be reached before it decays then the higher ridge downwind might get you there.

4. Fly at the correct speed! Not too fast.

5. If the thermals have a very short life then having left one thermal there is little point aiming at other already formed clouds unless they are very near. If there are wisps of cloud just forming it is worth trying for that one as its whole life is only just beginning. Sometimes the best chance, if no clouds are forming very close, is to head due downwind into 'blue space' and a thermal may arrive as you get there.

5B. A very good compass helps in flying due downwind. The Met Office will let you know the surface, 2,000, 5,000 winds so as to be able to allow for backing or veering of wind direction with altitude.

6. At present, time in the air is what dictates the distance of the flight.

7. Never leave lift or zero sink.

8. Never give up. Many times

thermals have been picked up when down to below 500, and altitudes approaching cloudbase again have been achieved.

9. If all else fails buy a sailplane.

### Aspects of a Long Cross Country

1. It is very cold at cloudbase even on a hot day, so wrap up.

2. Trim your glider to fly lightly and in trim. I tune mine so that in a 30° bank

360° it flies 'hands off' with no input necessary other than correcting turbulence.

5. Watch for changing conditions — thunderheads etc.

4. *Never* worry about getting back till you have landed, that way you get a lot more cross country flying!

This year there will most likely be 100 mile flights in Britain.

## BIG 'A' FRAMES — SHORT PILOTS

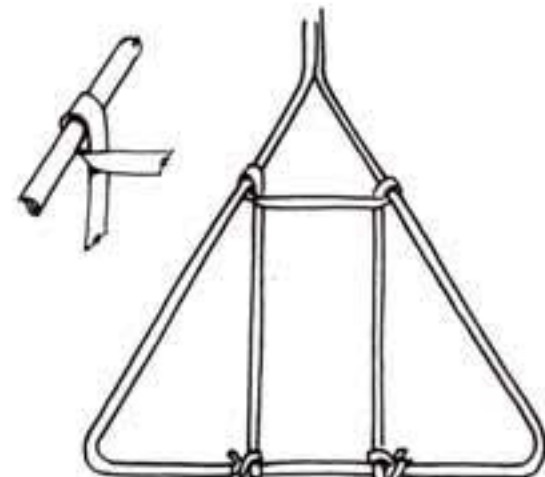
by I.J. Christian

Being short, I have found great difficulty in carrying rigged gliders with the new 5ft. 'A' frame. With the apex of the frame sitting on my shoulders, the central bar drags on the ground, particularly when climbing steep hills. It requires lifting by hand, arms apart which is very tiring.

A quick and cheap method of overcoming this is to use lin. terylene webbing tied to the frame to provide a shoulder yoke near the top, as shown in the diagram. The weight is then spread by the comparatively soft strap across the shoulders, leaving the hands free to give pitch control. The webbing is carried in the pocket during flight and takes a few seconds

to attach when ready to carry.

I trust this suggestion will ease the burden of fellow pilots.



# DEFLEXOR WIRE SYSTEMS AND SAFETY

When we make an intensive study of some accidents and some experiences in structural strength it becomes clear that the weakest point in the hang glider air-frame is the leading edge. Leading edges have been broken when the glider was inverted (M. Southall) or during radical performed wing-overs.

When one takes a close look at pictures of kites under stress (especially the bottom right one, of Steve Hunt's article in September *Wings!*) one notices the excessive bending of the leading edge, due to the high wing loading. It is obvious that with a different attachment of the out-and-down rigger wires, the result will be totally different. You could say that deflexor wires, placed wrongly are completely useless, and therefore highly dangerous, because one tends to think one is safe because one has three deflexor wires which should keep the leading edges straight.

It is not only the attachment points of the wires but also the angle and the way the deflexor-blades are installed which are critical. The forces that create the bending of the leading edges come in most cases directly from the sail so that deflexor-blades should be placed in the direction opposite to which the sail pulls on the leading edge. Of course these directions are continuously changing with different manoeuvres which we make whilst flying, but it is clear that a set of deflexor-wires, placed as we have until now, only act as a sail-former and not as a strength-improving device.

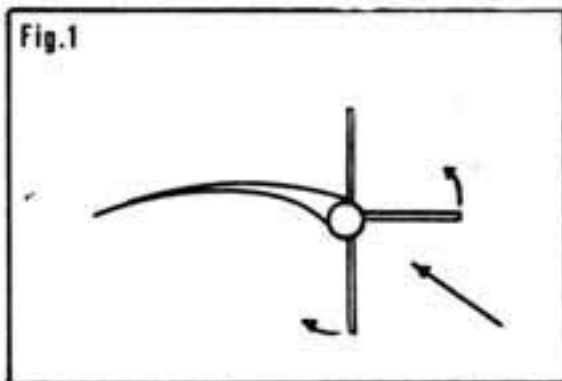


Fig. 1 A force in line with the sail will tend to bend this arrangement of deflexors as shown.

We also have to deal with forces created by gusts, side-slipping

manoeuvres or heavy turbulence.

Deflexor-blades only act as a safety device when the forces are in the line of the blade. Therefore we ought to make a dozen blades on each leading-edge which is of course quite impossible.

However, a simple device could give some rather good results. If we connect the three deflexor-blades by means of a steel wire, the blades cannot bend so easily and would be an improvement.

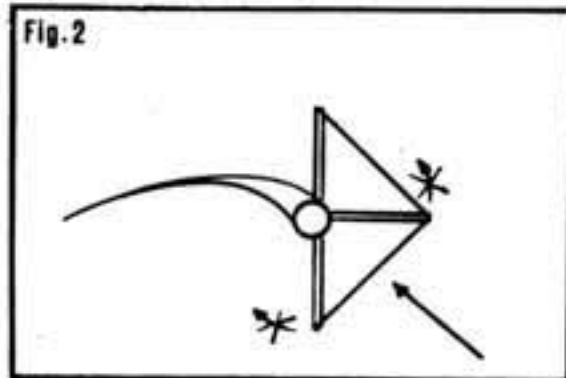


Fig. 2 By adding a wire strut between the deflexors they are kept in line.

By bending the leading edges down we can greatly influence the behaviour of our glider, but the outrigger deflexor wire loses its function as a strength device, because the wire doesn't go in a straight line (when you look along the L.E) from both the attachment points via the deflexor. Tension on the wire now bends the outrigger downwards, so we ought to change the position either of the blade or of the attachment points of the wire.

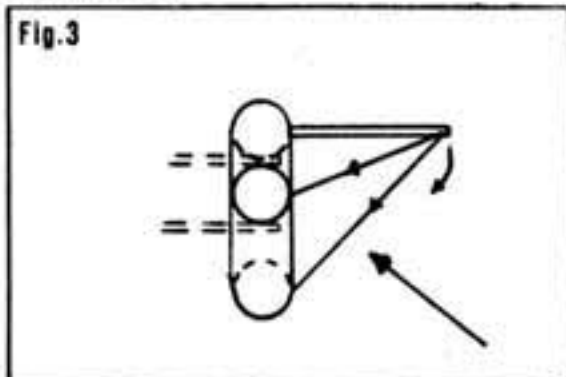
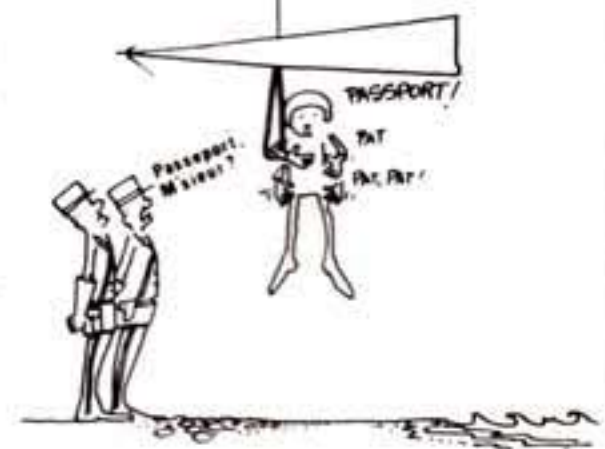


Fig. 3 Cambering of the leading edge moves deflexor out of line with wire and produces a downward stress on it.

In my opinion a renewed study of deflexor wires is a must for the manufacturers of safe kites on which we could really fly with confidence.

J.P. Beukers  
Holland

# PLANNING A HOLIDAY ABROAD



Dave Roberts, a Thames Valley HGC member stationed in Germany, was involved in a hang gliding accident on a site near Hoxter on the River Weser of Pied Piper fame. He is now recovering in the Berlin Military Hospital from a multiple fracture of the upper arm and extensive internal bruises. He got himself entangled in the rotor behind trees in the landing area. Well, it's easy to say don't fly through rotors, but in this case there is a lot more to learn from Dave's accident.

More and more fliers are going abroad and new sites and conditions are likely to result in a high proportion of accidents amongst these pilots. In this country we tend to take rapid medical attention for granted, but language difficulties, lack of local knowledge, and ignorance of procedures all tend to compound even minor accidents into serious incidents when abroad. Climbers visiting the Alps, and having only a rudimentary knowledge of the language, are encouraged to carry cards saying, in three languages, that their party has been involved in an accident, and are in urgent need of rescue/medical assistance. Not a bad idea and certainly better than sign language.

Medical Insurance is essential when ever you go abroad and the usual holiday insurance won't cover hang gliding risks.

Now we are in the Common Market we have reciprocal agreements with most of our partners, but don't assume you will get free treatment. In most cases only a proportion of the cost will be covered. You will have to pay to get yourself to the hospital, some of the fees and almost certainly the cost of getting home again. The agreements within the Common Market Countries only apply if you obtain the necessary documentation before you leave this country.

To find out what you are entitled to, get Leaflet SA 28, 'Medical Treatment for Visitors to EEC Countries', from you local Health and Social Security Office and allow plenty of time to write to Newcastle-upon-Tyne to obtain the essential Form E111. Remember, that tooth you have been meaning to have filled, will start to hurt the moment you step off the boat at Calais.

Information from Thames Valley HGC Magazine

## BHGA SUBSCRIPTIONS

**Individual Membership:** £7.50 pa (plus £1.00 entry fee for new members).

**Family Membership:** £10.50 pa (plus £1.00 entry fee for new members).

2 adult members of same family and household. Existing members can extend to family category on payment of additional £3.00.

### ITEMS AVAILABLE FROM MEMBERSHIP DEPARTMENT:

- Windscreen Badge .....25p
- Helmet Badge .....25p
- Cloth Badge (flying suit) .....60p
- Pin on lapel badge .....30p.
- Keyring and fob with BHGA Badge .....60p
- Keyring and chain with BHGA Badge in acrylic "teardrop" .....60p (can be used as a pendant)
- "HANG GLIDER PILOT" — by Ann Welch & Gerry Breen .....£2.75  
An excellent up-to-date book for beginners and advanced pilots (Plus P. & P. if only ordering this item) .....15p
- "HANG GLIDING" — by Bob Mackay. An informative book mainly for those who have just entered the sport .....50p (Plus P. & P. if only ordering this item) .....10p
- Log Book .....£1.00
- The BHGA leaflet "An introduction to Hang Gliding" (with a list of major clubs) ..... Free to Members
- List of British Hang Glider Manufacturers ..... Free to Members
- List of Schools on Current Register ..... Free to Members (Send s.a.e. if only ordering free items)
- 'WINGS!' BACK NUMBERS: Single copies to Members 40p, to others 50p.

BHGA 167a Cheddon Road  
Taunton, Somerset, TA2 7AH.

## NYLON RIPSTOP and TERYLENE

(P.U. coated) for sails. All weights and colours. For Hang Gliders. Hot Air Balloons. Stunt Kites. Largest retail stocks in England.

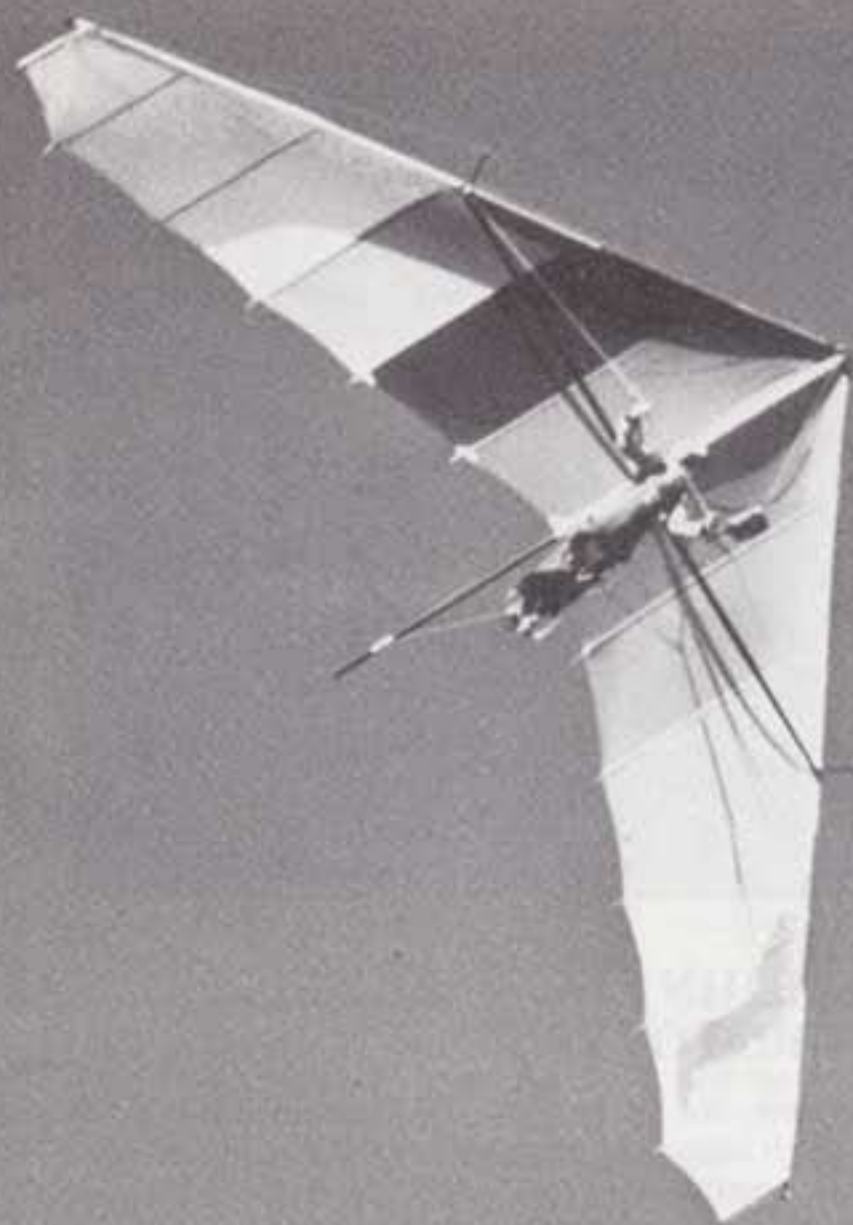
Immediate delivery. Safety webbings. Sewing threads. etc.

First send S.A.E. for full range of samples, before calling.

Free sewing instructions.

# Edward Barnes (wgs)

Hawksfold House,  
Fernhurst · Haslemere · Surrey · (Established 1928)



# The New Midas Super E

**The New Midas Super E**  
being flown by **Gerry Breen**  
of the **Welsh Hang Gliding Centre**  
coring a thermal high above  
**South Wales**

**Chargus** Gliding Company Ltd  
Gawcott Buckingham  
MK18 4JA England

Ring Murray Rose  
at Buckingham 028 02 4321  
For more information about  
the Midas Super E

# NEWS ROUNDUP

## ABERYSTWYTH NEWS

I am sure most people don't know that there is a small but thriving club up here. It was started by Ivor John in 1974 when he built his own kite. I don't know where he got the plans because I am told it doesn't really fly, but 'mushes' down at about 15000ft/min. (not getting at you, Ivor). Since then the kites in the area have increased by two Scorpions, one Sunspot, three Cloudbases and three Standards. We never had any formal training and now have about fifteen competent fliers. Rod Lees is our most advanced flier. He completed a seven-mile flight along the cliffs recently. This may not sound special, but Rod only learnt to soar in May and flew the cliffs in June on his newly acquired Sunspot.

We are grateful to Pat Laverty for his advice and inspiration. Unfortunately for us, he has returned to Ireland.

We now train all our own people and have had only one bad accident (a broken leg) after eaching about one hundred people to fly.

Finally, we have numerous sights some of which are a couple of miles long and about a 1000ft. high, but none with a road to the top. So if you come our way and are fit and the wind is good, telephone Capel Bangor 229 and ask for Rod Lees.

UCWHGG



## JOHN LEE PROTOTYPE

The photograph shows a successful development from a VJ 23 which John Lee spent two and a half months building during last summer. John says that the design has proved easy to fly, very stable and manageable in winds from flat calm to 15mph. John has so far only tow launched the glider from flat terrain, the tow cable being hand held, his right hand operating the controls stick. Flights up to 65ft.

in height have been made and the glider has made over a hundred flights with two pilots. Next summer John intends to thermal his glider, but would like to know of suitable disused airfields in the South of England. Anyone able to help John on this should write to: John Lee, Littleton Park Nursery, Laleham Road, Shepperton, Middlesex.

## FLYING DOWN TO RIO

When the Mayor of Rio de Janeiro was approached by the BHGA (Brazilian Hang Gliding Association) for permission to set up a landing area on public property, he enquired how he might fly one of these hang gliders. In no time at all a tandem flight was arranged for the mayor from the top of 2000ft. Pedra Bonita. The Mayor was chauffeur-driven to the top and had his private secretary waiting on the beach landing area with an ice cold bottle of Champagne. The Mayor's only complaint was that the flight was too short.



## JET ENGINED HANG GLIDERS?

EMG Engineering Co. of California has developed a compact, push-button starting, jet motor which delivers 130lbs. of thrust. With no moving parts the jet seems the perfect hang glider engine. Although no well-documented flights have taken place with this jet, it is rumoured that it has successfully powered a flex wing, mounted on the Kingpost.

## THREE GRAND AT GRISTHORPE

Talking with Bob Bailey one Friday evening, I was lured to Gristhorpe on the East coast for the next day with promises of light thermals from the sea, this latter being warmer than the land at this time of the year.

The next morning found Bob, Steve Ward and myself soaring the 300ft. Gristhorpe cliffs in fairly smooth air; occasional light blobs from the sea were coming in, making the flying more interesting.

Bob and Steve were flying at the Filey end of the cliffs (200ft. high at this point) past the 'kink' with me at the Scarborough end, when I saw them start to go up, working a thermal. I zapped along the cliffs and luckily got into it and started circling below Bob and Steve.

Concentrating on doing flat 360's in my Gryphon, I lost sight of the others. Lift where I was didn't seem very strong; the greatest indication on my Altitech vario was around 600ft/min

## AMERICANS ACCEPT THE CHALLENGE

After a written challenge, by Brian Milton, to the top American hang gliding newspaper, Glider Rider, its editor Tracy Knauss wrote the following editorial:

### 'We can beat the British, French, Germans, etc.!

In a series of editorials, letters and public statements, Brian Milton, Chairman of the British Hang Gliding Association, has challenged the Americans to a dual meet to determine the superiority of competition pilots and machines. To date, nobody has responded to this challenge.

Are we unimpressed or just disorganised? The British are not to be taken lightly. Thus, with this month's column I am making it official. We will beat the British. We'll hold the U.S. Open in October of '78 inviting teams from eight or nine leading hang gliding countries.

I am forming a company called Pro Flight. It will gather America's best human resources to address the competition problems. It will also solicit and obtain proper financing of hang gliding competition. We've complained long enough. It's time to take action and do something about the problems. Together we will plan

and execute the first professional meet in America. Prize money will be substantial and will be in escrow.

Plans will be published regularly and tasks will be formulated and finalised well in advance. In such a way, we will be able to establish a set of specific criteria by which the "best" pilot can be chosen. In the past, luck, human bias and error, poor equipment, and improper planning determined the winners of many meets.

Because of the difficulties associated with establishing a viable league system, as Milton and Hudson propose, a preliminary meet to qualify U.S. pilots will have to be held prior to the U.S. Open. And based upon the success of the meet, a circuit could form within two to three years hence.

The rules will be safe, fair, and will receive the sanction of the U.S.H.G.A. which will continue to conduct non-professional regional meets and a national championship. Participating nations will ratify the rules in advance. A certain number of flights will be guaranteed regardless of weather and time involved.

Equipment will be state-of-the-art, and personnel will be professional. Research of all previous meets will be undertaken to determine logistical requirements and optimal use of resources.

All competitors will enter the same class with participating nations approving technical parameters.

The meet will be conducted as a profit-making venture with the safety of the pilots and the advancement of the sport tantamount. The main problems to date have been attributable to the lack of investment capital. But potential investors are being cultivated and a breakthrough is forthcoming.

The British have a reputation for responding to a challenge. But the Americans are unequalled in rising to a worthy cause. The British are asking for a chance to prove their expertise in hang gliding. But I know we're better. I'm banking on it! We accept the challenge. The stage is set.

While the accuracy of the first sentence is doubtful the challenge is not (if you read this Tracy, Brian isn't yet Chairman of the BHGA and neither is he Editor of our magazine). Also in a letter to John Hudson, Overseas Competition Co-Ordinator, Don Whitmore of Canada has invited the top five League pilots (Wood, Carr, Calvert, Bailey and Slater) to The Grouse Mountain Invitational Championship this year. Don Whitmore of the Aurora Co. is hoping to develop the Grouse Mountain event into a truly international meet.

up and generally I was getting between 200 and 500ft/min up. Having no altimeter at the time, I didn't know my height and was generally just floating around enjoying the view when I spotted Bob about 1000ft. below and over to the left; we were both about a mile or so back from the cliffs over the town of Fiely.

Having been away from the cliffs for about half to three-quarters of an hour by now, we were clearly getting lift from a fairly solid-looking cloud. Eventually, Bob flew back to the cliffs and, after tooling around the sky a little longer, I followed him, and, reaching the coast with lots of height, soared around for a bit (looking for another blob) and finally top-landed adjacent to the take-off area.

In my innocence, I may have gone cross-country with the cloud (I think I've been kicking myself ever since) but, talking to Robert on landing, it seemed that he, at 2000ft. ASL, was getting about eight up and had started to get worried about being sucked up into the black nasty and turned into ice crystals.

So, bowing to Bob's superior knowledge of cross-country flying perhaps it was just as well I didn't go with the cloud. On the other hand, the Gryphon is a very fast machine and may well have been able to combat any excessive cloud suck.

Next time . . .

**Trevor Birkbeck**

For a long time now, a cancer has been growing in the ranks of BHGA members. I'm referring to the hostility which is being shown between some clubs with regard to the rights to fly particular sites.

This is a serious problem. Somewhere there is an answer, and closing the doors and refusing entry is not it. There are cases where a long established club has welcomed people from far and wide. They soon find that when members in an area find they can manage without the club they started with, a new club springs into being, or a weakened old one receives an injection of new blood. The new club may have new sites, better sites, bigger sites, and because the older club has had its sites under pressure for a long time, its members want to go along and fly these new places. Clang! The portcullis comes down. "This is an XYZ club site, you must be a member to fly here" they say. Hackles rise, resentment breeds and letters fly to *Wings!*

We're all in this together - surely we can find some solutions.

Up here in the Pennines, a start has been made. About a year ago Fred Ashton conceived the idea of a Northern Association. About eight clubs covering the north of England were invited to meetings, but in truth, I believe the majority could not realise the necessity to get together.

The Association is now being revived and Trevor Birkbeck has

## PENNINE NEWS: CO-OPERATION IS THE KEY

by John Hudson



applied his considerable ability and unbounded enthusiasm to at least getting associate member status between all the clubs.

I recently received a report about a meeting last month which was attended by club representatives from clubs over 200 miles apart. The Dales, Pennine, Sheffield, North Yorkshire, George Cayley, North East and the North Wales and Merseyside clubs, have all agreed to publish lists of contacts so that pilots will have someone to ring before flying outside the area of their own club. Everyone agreed that visitors should be welcomed, wherever site limits would allow. Providing this visiting was

occasional only — a few times per year — it was agreed that an associate membership fee would be unnecessary, but otherwise in the interests of everyone, it was felt that if a club offered associate membership then the pilot should take it up.

This is a real step in the right direction and I applaud the foresight of the club officials who have taken this initiative.

We are all in this "hang gliding thing" together and co-operation of the sort that has started to work up here in the North is essential, if we are to remain strong and not degenerate into a bickering bunch of fragmented groups.

However, the whole thing is down to the membership. If you are a member of any of the above clubs, it is your responsibility to ensure that you do your bit to make it work — before going to a site in another area, ring someone. Be courteous on their sites, go out of your way to co-operate.

If we all do this, there is a massive piece of England where we can all fly, where we will all be made welcome, where the sun shines every day and the wind blows onto the hill at 20mph.

Joking aside, this is a serious subject and an excellent start has been made by a few. We are the many, and we must all make an effort to build upon it.

The Association of Northern Hang Gliding Clubs is back in business.

## 3/4 OF A MILE HIGH OVER INNSBRUCK Mike Stainer of Devon is presently wintering in Austria as a DJ. He recently sent this letter of his flying exploits from the land of snow and mountains

Gliders everywhere, some rigged, some in bags, but everywhere gliders, gliders, gliders. I was the only English pilot there and flying solely for pleasure whereas these other people had done their skiing bit the day before and the one competition flight (spot landing) was today.

The only other English glider I saw was a Gryphon which was very new to its owner, he had flown it only five times before and now in close togetherness both glider and pilot were poised on the edge of the world ready to go for the spot which was about 1 1/2 to 2 miles down range, (they said I would see it when I got there!). One by one all these guys and a few ladies floated away and disappeared in the distance and a slight smoke haze which hung over the city.

I was the last to go, I'm not sure if that was a good idea or not. The take-off point was of course covered in snow and ice but the organisers had very conveniently put down a strip of carpet to help the run on take-off, but for me, it seemed to start on the very lip and run down the face of the mountain almost perpendicular (?). I did my pre-flight check for the third time (or was it the fourth?) got to the

edge and clipped in, checked the harness, did a quick brain scan, lifted my glider, one, two, three, four, five steps and off the mountain. A textbook take-off, over the cable car that had brought us up and a return wave to the many skiers below. I flew left from the take-off point for about 10 minutes, away from the city and over the village of Hall in Tirol. Then I did a 180 turn to take me back towards where other fliers were making their landings far below. At this point I wished I had my Altimeter (as it was still in the car and it was much to late to go back for it now). There were patches of lift in the light wind which helped me to maintain my height for a long time. I turned away from the ridge and looking down saw I was over the river Inn and some multi-storey blocks of flats that looked like 'Lego'. The city below resembled a large model railway. The air was so very smooth it brough a wide smile to my face as it reminded me of some of the summer coastal flying in Devon. Everywhere was white with ice and snow, the sky was clear and blue and the sun was warm. In all, pretty far out and peachy. I could see the landing area now about half a mile behind and maybe 2,000ft. below. It's

not good practice to fly hoolies so the next 1,500ft. or so of descent I won't tell you about, but it was fun. Another three 360's and the bird brain was computing the landing approach. I came in a little fast, so I landed straddling the far side of the five metre ring (diameter) but a great flight. The brain was as high as a kite for maybe another hour.

I hope to fly from the Hintertux Glacier to Mayrhofen before I come home. This time I will have my instrumentation with me so if I write about it you can have a more exact picture.

A few points to remember when flying the Alps: a) With a little wind around the mountains, a lot of turbulence can seem to come from nowhere — so ask the local pilots first! b) It's much better to have a glider that will knock down to about 3 1/2 metres. c) Nearly everyone out here flies with a parachute (food for thought).

Oh, by the way, the result of the Competition was:-

Skiing Section:

1st Christian Steinbach

Hang Gliding Section:

1st Christian Steinbach

Overall Position and Competition Winner: 1st Christian Steinbach — so he has another boot full of trophies.

**If you go flying abroad, send *Wings!* a letter telling us about the highlights of your trip.**



The idea first came up on Saturday night at about 10.30pm. One of the local fliers, Lucci, said he was going to Innsbruck the next morning to a Hang Gliding and Skiing Competition for its final day. He then asked me if I would like to go, you can imagine my reply!

I finished work in the disco that night at about 3am and hit the sack until 7.30am. Very bog-eyed I walked down to the village of Mayrhofen with my long bag on my sholder. We loaded up on Lucci's car and set off at approximately 9am. On the way to the city of Innsbruck we stopped to pick up two other fliers, a guy called Heinz and someone you may have heard of — Christian Steinbach, the World Champion (1976). When we arrived at the city we went straight to the cable car and I was very glad my Scorpion D was a knock-down or else I would not have been able to get it in the cable car. (In some cable cars it does not matter because they will open the window for the gliders to stick through).

At the take-off point it was like the Dyke on a sunny Sunday morning.

# PARACHUTES

Parachutes — another piece of costly equipment or a valuable life saver. Tony Fuell describes his experiences in the development of a new British parachute system for hang glider pilots

Photographs: Judy Hunter, Illustrations: Bill Lehan



*Not quite a feather-light touchdown, but safe!*

If 1976 was the Year of the Prone Harness, and 1977 the Year of the Vario, 1978 seems all set to be the Year of the Parachute. As the relentless search for more and more performance brings us wings that will max-out lift you didn't even know was there, and as pilots become better and better able to use them, so we're gradually getting further away from the hills, out and up into the wide blue spaces. And this is going to bring its own problems in due course. It's not all coring-out peachy thermals to 10,000, then lobbing off downwind for fifty miles — out there in all that air are lurking some VERY nasty monsters. The few pilots who have started to thermal regularly are already accumulating horror-stories of the "There I was, upside-down, nothing-on-the-clock-but-the-maker's-number" sort. Just listen to Bob Calvert telling you how he had to wrap his feet around the wires to keep from being slammed onto the keel in turbulence recently.

So it's hardly surprising that quite a number of people, in hang gliding all over the world are busily looking at parachute systems which will at least give you another option when all the hang gliding ones have run out. There are several systems available — Windhaven and Bennett from the USA, and Delta-Stop from Germany. They all work on much the same principles — a fairly conventional canopy is carried in a pack attached to the harness, and when deployed streams out behind the glider, attached to a strop which goes either to the hang point, or to the heart-bold. (see diagram). I really don't want to get into an argument with anyone about whose system is the best — to my mind there's not enough evidence at the moment to justify anybody claiming superiority. The main disadvantage of the systems on the market as far as I'm concerned is the cost. I know it's easy to trot out the "What value do you place on your life"

# Scottish Open Championships

25th to 28th May, 1978

**£300 in Cash Prizes, Trophies and Medals**

The venue for the 1978 Scottish Open Championship will be the Cairnwell Mountain, Braemar, Aberdeenshire (I.O.S. Map Reference Sheet 07/17 - 135,774). The mountain is 3060 ft. ASL (top to bottom height is 1700 ft.). A road takes one to within 1000 ft. of the summit where pilot and hang glider are then transported to the top by chairlift. The site is reached by travelling north along the A93 out of Perth. The R.A.C. will erect signposts shortly before the event.

The Open Championship will be preceded by a British League Event (21st-23rd May). Free flying at this event may take place upon obtaining the permission of the Chief Marshall on the day. The Open will also incorporate a preliminary heat for the Scottish Area League qualifier. All S.S.A. members who wish to be included in this qualifier are asked to indicate this in their entry form.

## Entry Qualifications

Competitors must belong to the B.H.G.A. or the National Association in their own country. They must have qualified for the B.H.G.A. 'Pilot' badge or their National Association equivalent. Where a National Association has not yet set up a mechanism for grading hang glider pilots, competitors are required to produce documentary evidence from their own Association that they are of an equivalent standard.

The Open championship will not have separate classes and will be open to any make or model of hang glider provided the following conditions are satisfied.

1. Capsule or partial fairing of pilot is prohibited.
2. Any physical or mechanical means to produce energy to increase performance will not be allowed (aerodynamic controls are permitted).

3. Communication devices are prohibited.
4. Air brake drag 'chutes will not be permitted during competition flying.
5. All gliders must meet airworthiness standards and be B.H.G.A. "approved" or "registered". Aircraft manufactured outside the U.K. should conform to standards existing in their country of origin.

NOTES

1. Any item is permitted if not prohibited.
2. Competitors must use the same glider throughout the competition.
3. All gliders and equipment used will be scrutinized as a safety precaution. The S.S.A. reserve the right to refuse entry in the competition to anyone whose glider or equipment is not considered sufficiently safe.
4. Crash helmets must be worn during all flights.
5. Boots or footwear with lace hooks are not permitted whether you fly prone or seated.

Please fill in the Entry Form overleaf if you wish to take part. Send it to ALISTAIR MUNRO, COMPETITIONS SECRETARY, 25 REGENT TERRACE, EDINBURGH, EH7 5BS before 24th April, 1978 with your entry fee of £10.00. (The entry fee includes transport for pilot and machine from the landing area to the mountain summit for each competition flight. Certain rigid wings, if not fully collapsable, may prove impossible to be transported by chairlift). Overseas competitors may send in entries up to 8th May, 1978. Regulations and entry passes will be sent out in May. Send a large stamped addressed envelope. Entries will only be accepted on the Entry Form or on photocopies of it.

Accommodation

The base for the competition will be the Spittal Hotel, Glenshee. A camp site is adjacent to this hotel and competitors and marshalls requiring free camping space allocation are requested to indicate this on the Entry Form.

-----  
Declaration To Be Signed

I agree to be bound by the rules that the SSA lay down for this event and I declare that I am entering the Competition of my own free will and at my own risk. To the best of my knowledge the hang glider that I will fly at the competition conforms to the standards laid down in the rules. I further declare that I indemnify the Scottish Sailwing Association and the landowners and tenant farmers concerned and will save them harmless from and against all proceedings costs claims expenses and liabilities whatsoever in respect of deaths or injury or loss caused by me and arising out of or in connection with the event. I am over 16 years of age and do not suffer from any mental or physical defect which would render me unfit to fly at the Event.

..... (Signature)

Consent of parent if under 18 (Signature) ..... Date: .....

(PLEASE SIGN THIS DECLARATION AND RETURN IT WITH YOUR ENTRY FORM)



# Entry Form

## SCOTTISH OPEN CHAMPIONSHIPS

Cairnwell Mountain, Braemar, Aberdeenshire, 25th-28th May, 1978.

To: Competition Secretary, A. Munro, 25 Regent Terrace, Edinburgh, EH7 5BS.

Surname (Block Capitals) ..... Christian Name (Block Capitals).....

Address (Block Capitals) .....

.....  
(Please enclose a large stamped and self-addressed envelope with your completed entry form).

BHGA No: ..... Telephone No: Home .....

BHGA 'Pilot' Badge No: ..... Business .....

Name of your Club .....

Competitors from outside the U.K. must be able to produce documentary evidence from their own National Association that they are of an equivalent standard to the BHGA 'Pilot' Badge.

Glider to be used on Open Championship:

Make ..... Type ..... Model .....

I enclose a cheque/postal order No: ..... for £10.00 (crossed and made payable to SSA please). I understand this is a non-returnable entrance fee (once accepted) to assist towards the Association's expenses.

British League fliers please tick

SSA members wishing to compete in Scottish Area League qualifier please tick

Competitors requiring allocation of camping space please indicate requirements (i.e. number of tents, caravans, etc.) .....  
.....

If you require a list of local hotels, please tick

(DECLARATION ON OPPOSITE PAGE REQUIRED WITH YOUR ENTRY FORM)

# Information for Commentary

Please complete this sheet as fully as possible to provide information for the commentary during your flight.

Name ..... Usual Nicknames .....

Address .....

Occupation .....

Make, model and size of glider .....

Name of your local club .....

Do you hold any position in the club? .....

Do you hold any position in the SSA/BHGA or other Association ? .....

How long ago did you start hang gliding? .....

Longest flight to date .....

Cross country flights to date .....

Competition wins or placings to date .....

Please give below any other information which will be of interest, e.g. amusing happenings in your hang gliding experience, commercial interests, hang gliding in other countries, etc.

Commentator's Notes .....



Nick Regan test deploys from a seated pack

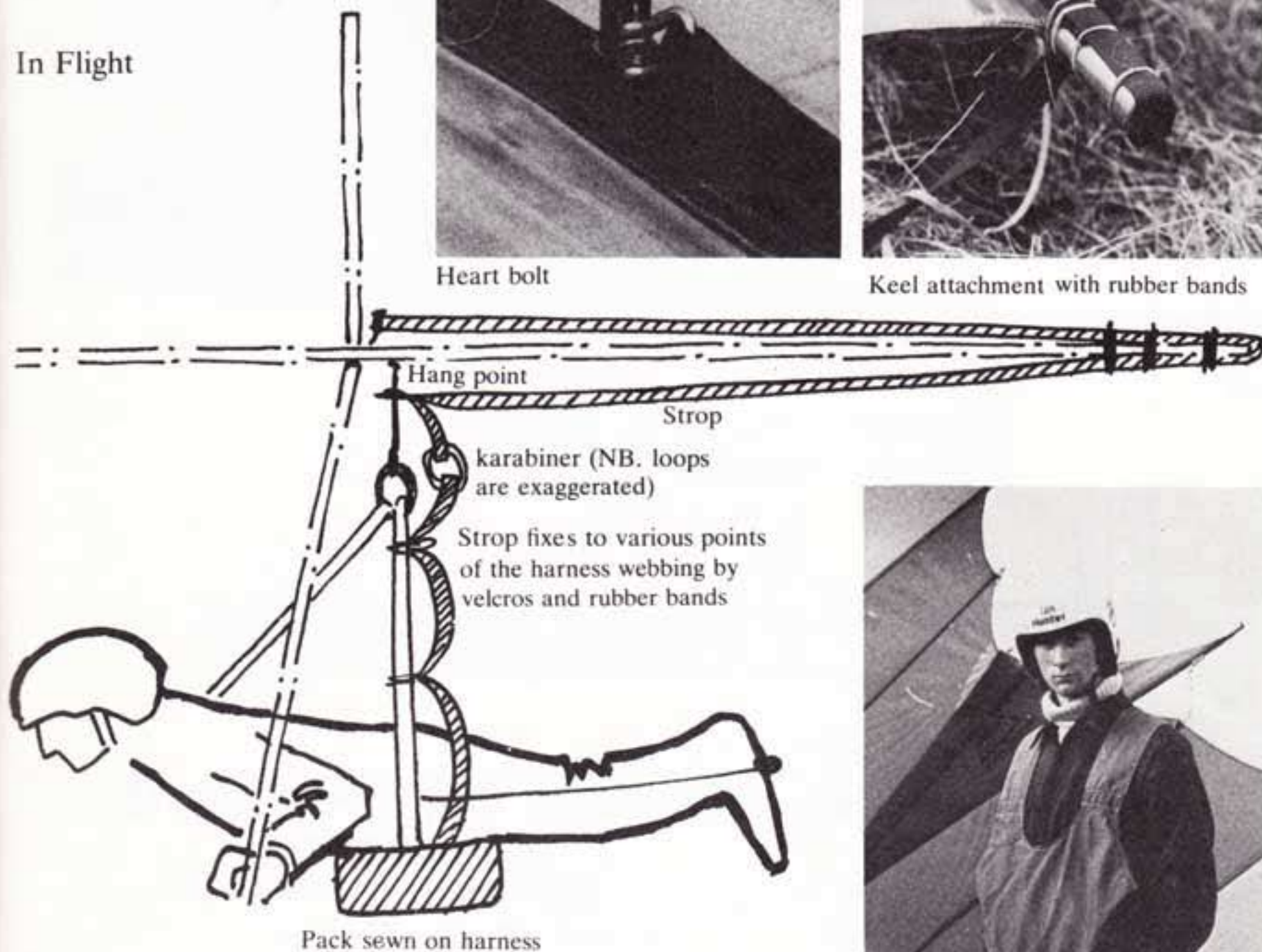
In Flight



Heart bolt



Keel attachment with rubber bands



When flying prone, the packed parachute must clear bottom bar



Parachute shown in position

argument, but £200 or so is an AWFUL lot of bread to lay out on a piece of equipment that if all goes well you'll never have to use. So, when John Hunter told me that he'd been approached by a UK parachute manufacturer who was proposing to develop a system which he thought could go out at considerably less cost than the others, I was extremely interested.

And before I get into the "commercial" side of the information, I'll say that YES, I am benefiting from taking part in the research — I'm getting a canopy on loan for my own use. I thought that as more pilots become interested in parachute systems, a brief account of our experiences might be helpful.

The 'chute we used is manufactured by GQ Parachutes Ltd. of Woking. They are a very large manufacturer, with a great deal of experience in canopy design. We chose a 17ft. flying diameter aeroconical parachute similar to those used in aircraft ejection seats, with slightly shortened rigging lines. This 'chute was chosen since it has good opening characteristics between 10 and 70mph, the range we were interested in, and is capable of withstanding 8-9g in deployment. We were looking for a smooth deployment, giving a uniform deceleration of the glider, and a sink rate (with a 250lb. load) of the order of 16ft/sec. (We are still trying to get accurate figures, but believe that the actual descent rate is fairly close to this theoretical one). Inside the outer bag, which attaches to the harness the canopy is contained in an inner bag, and deployed by a conventional extractor, or "drogue" (basically, a very small parachute), but without the spring which is fitted for normal deployment when the canopy is used as a reserve. GQ were very helpful, and designed us some packs which could be fitted to either prone or seated harnesses. The prone model is fixed by means of two straps which are sewn to the apron. A safety flap

covers the inner bag, and is secured by strong Velcro. To deploy it, you bend your knees slightly, grab at the edge of the flap, which is secured so you can't open it accidentally, and RIP like crazy! The seated model packs neatly out of the way underneath a little wooden seat adapted from a HIWAY seated harness without difficulty. In this case it's deployed by pulling a ripcord at the side of the harness. One of the major problems with designing these installations is ensuring that it ALWAYS opens when you want it to, even if years go by before it's used in earnest, but it NEVER opens accidentally. Here's where experience in parachute design helps, of course.

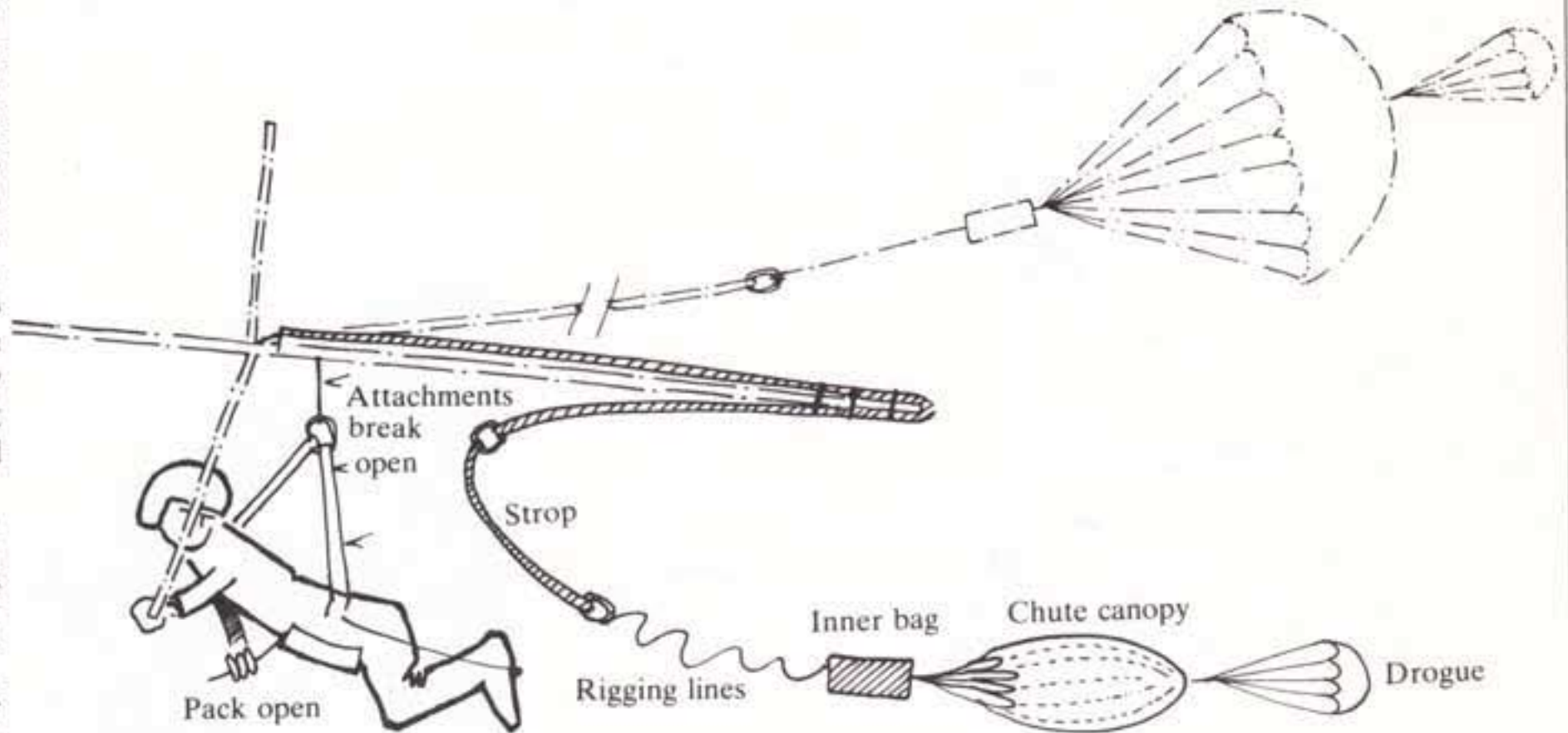
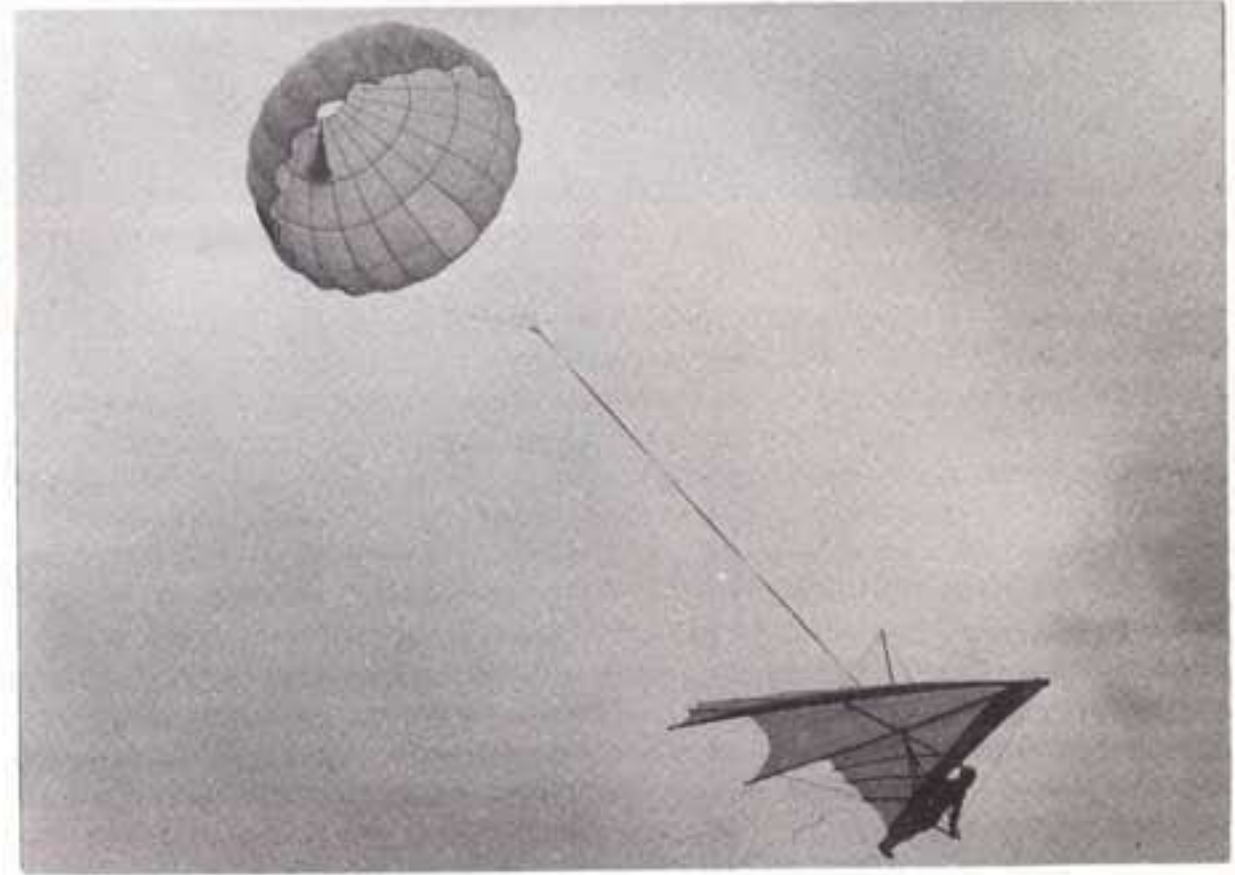
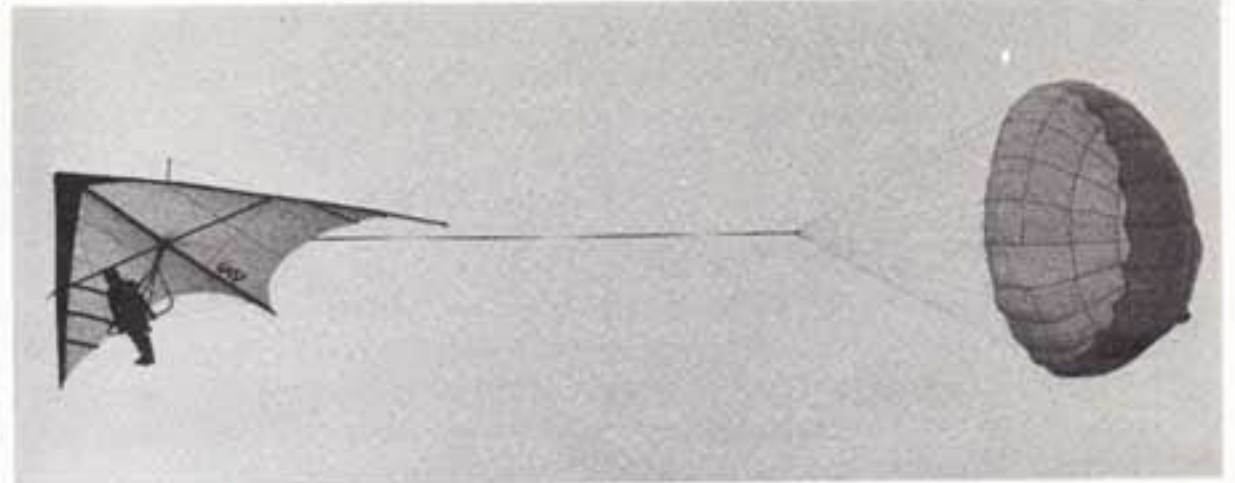
All this design work was a bit beyond me, but the next stage was quite fun. We took the test rigs out with us on a number of occasions and did test pulls on the ground to check whether the 'chutes deployed. We also did a series of test drops out of a handy tree, and later on from GQ's test rig. Due to limitations on our time and patience, we only checked the deployment in winds up to 30mph, but it looked perfectly satisfactory, and so we went to the next stage, which was to do a test deployment from the aircraft in flight. Nick Regan won the toss on this one; flying seated, with the parachute attached to the glider with a weak link — he pulled. Everything went perfectly — as the 'chute deployed, it broke free of the kite and floated gently down.

Finally it came down to doing a "live" one, with the 'chute attached. From a careful study of the US and German reports, I had a fair idea of what to expect. After a bit of a hiatus over Christmas, and an abortive weekend spent trudging round looking for kindly balloonists to give us a drop, we decided that we'd have to do it from a site. And so on January 14th at the Devil's Dyke at a height of about 160ft. (lower than I'd have liked) I took a deep breath, and finally DID IT.

Although the conditions weren't perfect, they were not too bad. There was a lot of very low cloud about, but it was above the hill at the time. On top, the wind was 8-10mph. Below, almost nothing. I flew the Falcon III test kite away from the hill quite fast. In the middle of the field I turned into what wind there was, and pulled. My first



Top left: Canopy falls away from glider. Drogue deploys prior to strop breaking loose attachment points. Above right: The instant of deployment. The canopy is almost horizontal to the glider flight path and is acting as an effective airbrake. Tony instinctively pulls on speed to counteract the slowing effect. Right: The glider starts a gentle swing to hang vertically below the canopy.



Deployment is by a simple velcro rip



Deployment



Parachute bag and pilot chute deploying rigging lines

impression was a flash of white out of the corner of my eye, and a series of "pings" as the rubber bands holding the strop pulled free. Then, as the chute deployed behind the glider, almost horizontally behind me, the glider stopped in the air, as if it had run into treacle. We had certainly got a smooth deceleration — there was no jerk. But it was a horrible sensation from the point of view of a veteran pilot. Every instinct I had was telling me that I would certainly fall out of the sky — one of the photos shows me at this point doing a handstand on the bar, trying to push it past my toes to speed up the kite. Had I known what was coming next, I wouldn't have bothered. As the speed went off, the glider sank round fairly smoothly in a circle

— I couldn't stop it — and settled down almost vertically underneath the canopy, which lowered me gently to the ground slowly rotating about the suspension line. As I got lower, and could check my rate of fall relative to the ground I began to relax — although the glider was fitted with a quick-release, and I could have dumped the parachute at any minute, I was really too low for this and I decided to ride it all the way in.

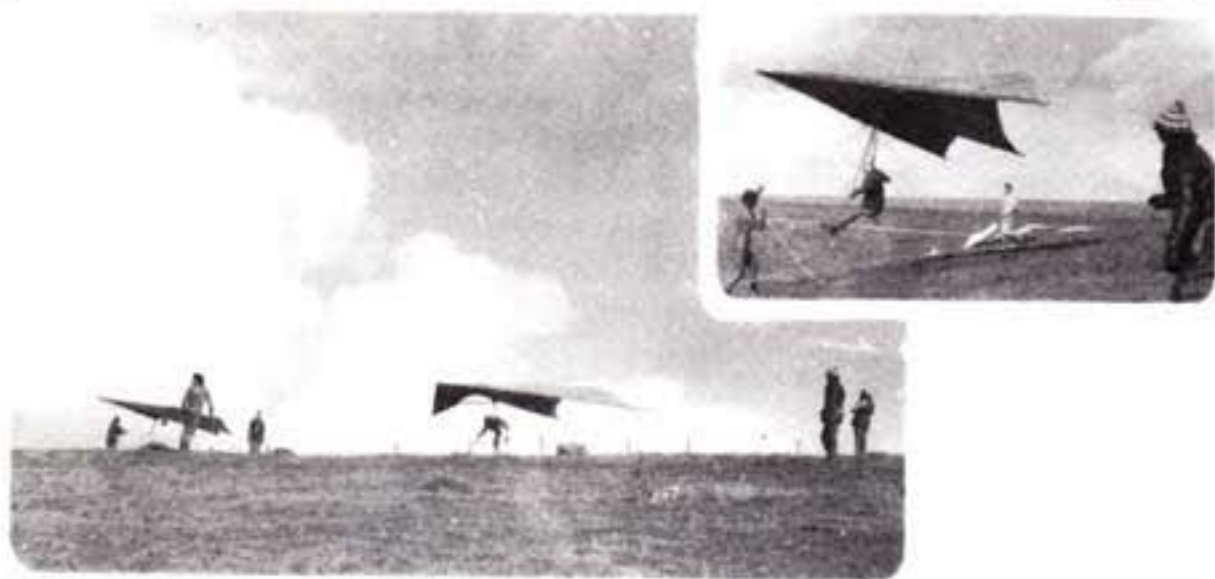
As the ground came really close, the glider continued to rotate. (As well as the UK 'first' for parachute deployment, I also claim the "low-level 360" record — two-and-a-half turns from 50ft! We're seeing if we can't improve this a bit!). When we eventually touched down it was with the kind of impact you get

when you land back on top into a high wind, when you're pulling on all the way down. You know, not a feather-light kissing-the-ground touch, but nothing to worry about either. I went then and spoiled the whole thing by falling over in the glutinous Dyke mud and bending one of the control frame uprights! Then the rest was "easy-peasy" — pack up the glider, back to the hotel, and a triple Scotch to take away the nervous reaction!

Parachutes are certainly here to stay. They have already saved several lives on the Continent, where mountain turbulence sometimes makes our high-wind flying look tame. Despite what I said before, I'd wear one not because I'm worried by atmospheric effects (the temperate climate of the UK

doesn't often produce really "killer" conditions, without plenty of warning, and if it looks that bad, you shouldn't be flying) but because I'm more afraid of a mid-air collision. Given the increasing number of people on every site in the country, the odds must be getting shorter all the time. We've already had one at the Dyke over Christmas — how long before the next? I already fly like a total paranoid — just like when I'm driving, I'm convinced that everyone else is out to get me — and knowing that I've got a way out, will be a great addition to my peace of mind. The GQ system will be available before long. Check it out — or any one of the other systems, the one you choose is not too critical. Give yourself a "ninth-life" ☺

# Flying comes easy



at Ashley Doubtfire's

Tel : 067-25-3021

## Birdman Flight Training School

MILDENHALL

MARLBOROUGH

WILTSHIRE

BHGA Registered, using CAA approved radios, Static and Gliding tether, Keel assist, Dual soaring; and running two-day and four-day courses for novices to Elementary certificate/Pilot 2. One-Three day soaring and top landing courses to Pilot Badge/3 level — reduced rates for glider owners. Refresher courses at all levels available at special rates. We are 8 miles from M4 / Exit 15.



OPEN 7 DAYS A WEEK

# Mitchell Wing

Don't Buy UNTIL YOU  
HAVE INVESTIGATED . . .



### MODEL B-10 BUZZARD

We've been telling you all along to watch our smoke, now look what we've done.

- 1st in long distance. (95 miles)
- 1st in out and back distance. (48 miles)
- 1st in Southern California Regionals.
- 1st in L over D at '77 Nationals.
- 1st in top speed.
- 1st in minimum sink at '77 Nationals.
- 1st in duration at '77 Nationals.
- And the Big One - 1st in the Unlimited Class at the '77 Nationals. Heavener, Oklahoma.

A real thermal machine. Designed to appeal to the expert pilot who wants to fly cross country. Lands under 12 M.P.H. Top speed of 55 M.P.H. Sink rate 2 ft. per sec. 18 to 1 glide ratio. Easily set up in minutes - Wings hinged to fold for car top loading - Stabilator Control on all three axis. Sold as plans only, kit form or complete. Soaring performance and much more. World's finest foot launched aircraft. Send \$3.00 For Full Information And Brochure. Now offering a dealer program. Inquiries invited.

**M** COMPANY - 1900 S. NEWCOMB  
PORTERVILLE, CA. 93257  
TELEPHONE 209-781-0778 Telex 682-455

# A DAY BESIDE THE SEA

by Tony Fuell

Photo: Mark Junak



I once read a science fiction story, a very old one, in which the human race had degenerated into a number of giant brains, kept alive by machinery in tanks of nutrient solution. By doing this they had achieved immortality, but had found that a major problem was to provide sufficient sensory input to keep them sane. This they did by playing back experiences recorded by people who had still got bodies — the one I particularly remember was a surfing sequence, but you could apparently get more or less anything you wanted — climbing the Matterhorn, making love to Brigitte Bardot, etc.

Anyway, what really impressed me about this story was not the plot, which was pretty mundane, but the IDEA of being able to store up your experiences like that — to get them back, pure and unchanged after years have passed you by, and ever since, whenever smething particularly nice has happened to me I've tried to make a conscious effort to remember how it was, so that I could relive that experience again and again. Since I started hang gliding I've had several days like that — gleaming nuggets mined from the round of day-to-day existence. The sort of thing I can sit on the train and daydream about, with a silly vacant expression on my face, miles away, peace, perfect peace.

One of those days happened to me just recently. We've not had a very good summer on the South Downs — to add to the poor soaring conditions that prevailed for a lot of the year, we've had endless hassles over sites, and the monstrous bummer that was the end of Mill Hill. So it was with very little expectation of good flying that I headed out one Saturday in September. It was a

very nice day, though, blue sky and a cool but persistent breeze which as near as I could tell from my back garden was due South. This I treated with some caution — my house is in a fairly deep valley at the back of Brighton, and it is sometimes subject to funny wind conditions when it's in that quarter. But, I thought, why not just load up the car and go and

have a look . . . The best place in Brighton for wind direction is the flagpost on the top of the Royal Garden Hotel on the seafront, and I headed down that way. Sure enough, the flag was out straight, and the wind was coming right off the sea.

Newhaven is not an awfully well-known site, but while not very high, it has two big

advantages:— one, for a cliff site, it has a very good and easy takeoff, and two, top landings there, are, if not TOTALLY easy, at least possible in most conditions. Also, there is SOME beach there at all states of the tide, which can be comforting. As I drove along the coast road, though, I saw that the tide was out, which gives you beach all the way. By this time, things were beginning to look good. My grip on the car's wheel was beginning to get tighter, the intensity with which I cursed each doddering Sussex driver got wilder . . . Hey, keep cool, not far now . . . All the way along things looked better — in Peacehaven the garage flags stood out away from the cliff, and when I rounded the corner and got my first look at the Coastguard tower, I could see that the flag was straight on. Up the bumpy track, concentrating carefully — don't want to rip the silencer off my car now, — around the corner and up to the top. Oh.

No-one there at all. To people who are reading this in the wilder parts of the globe, the lack of any other hang gliding people might not be surprising, but in the SE of England, the most heavily populated area of one of the most populated countries on earth, it was a bit uncanny. Normally even the scent of a soarable breeze brings out the crowds. Was I in the wrong place? Was I about to blow it in a big way? Oh well, get the glider off and go and have a closer look. Up on the take-off point things still looked good, there was still this lack of other people but it was only 10.30 a.m. — perhaps someone will turn up soon. I started to rig. As usual, this brought out the punters — there is a holiday caravan site just down the road, and several people walked up to see what was going on. By the time I had

finished rigging, I had an audience of five or six people — but still no other flyers.

Ah well, nothing for it but to give a quick course in ground-handling to one of the more competent looking spectators, and give it a try. I selected a young Malay Chinese who had been asking lots of interested questions, and together we got the Scorpion to the edge of the cliff, which at that point is nicely rounded. I gave him the sign, he moved aside and with no fuss at all, I was away.

Right away I knew it was going to be good. For a start, I hit the stirrup fist go, no problem. Normally I can do this, but just lately, for some unknown reason I've been going through a phase of thrashing round the sky like a demented bumble bee before I got it under control. But even that seemed to be OK, so, heading westwards, I did my first beat. I was rising steadily, the air so smooth that there was little sensation of lift — only the fact that you were up to 150ft. above the cliff told you that it was there. Reaching the end of the beach, I turned to run back to the take-off area, and as I passed overhead I could see little stick-like figures carrying long bags over the top — those missing flyers had turned up at last.

Clearly it wasn't going to be long before the South's chronic overcrowding problem struck again, and so on my next beat I decided to run down as far as the building site on the outskirts of Peacehaven and look at the situation there. This is about a mile of westerly run, and presented no problem at all. When the tide is in, you're flying over the sea all the way, but at the moment it was out, and the rocks lay below me, giving off a strong pong of seaweed in the sun. When I got there, another decision presented itself. Should I go for Brighton or not? It HAS been done before, but not often. It's about six miles of cliff, which in places is only about 30ft. high. You also have to contend with the fact that the townships of Peacehaven, Saltdean, Telscombe Cliffs and Rottingdean run up to the edge of the cliff, and this involves flying quite close to houses. At some stages of the tide there is no top or bottom landing for quite a way. But with the September low tide, I could see from my present position that I could bottom-land at any point along the whole trip, and so I went on.

I had lots of height, and the first part of the run past Peacehaven was a doddle. The town is laid out in neat geometric squares, with a series of roads running down to the clifftop. People were out washing cars, cleaning their windows and generally going about their daily lives, while a few hundred yards away, I floated, watching it all, as silent as any hawk. Is there any other thing that makes you feel quite as god-like as this? On the promenade walk sat groups of old ladies, out for their morning constitutionals — I gave them a wave as I flew by, and they all waved back. As the morning wore on, more and more people were coming out to take advantage of the unseasonably warm sun — I waved to them all.

Beyond Peacehaven comes the first problem-area, between there and Telscombe, the cliff goes down quite low, and right at the lowest point, where there is only 30ft. of cliff, the Council had cut out a great hole to build a new pumping station. A few building workers were moving about on the top of the new building as I shot past on 'max-glide', utilising the lift from the front of the building to get me across the gap. On the other side, I was level with the edge of the cliff and the beach was looming closer. I thought that I was in for a long walk, but the smooth persistent lift saved my bacon, and as soon as the cliffs started to go back up, so did I.

Further down the line from

Telscombe comes the real challenge — the run past the Saltdean Lido area. Here you have to contend not only with a lowish cliff — about 25ft. at its lowest point, but also with a building, and a lot of people. The low cliffs extended for about 400 yards, so I beat back and forth on the high bit for a while to work up all the height I could before going for the gap. In the event, I sailed happily past everything with height to spare, waving to the crowds as I did so, and rose majestically into the sky again on the next good bit of cliff. From here it was plain sailing. Over the front of the flats in Rottingdean, and down a smooth bit of cliff to the Brighton Marina. Any thoughts I had entertained of going on further into Brighton were dismissed as I encountered the first turbulence of the whole trip — the vast sea defence works in front of the Marina interfere with the flow of wind from the sea to a quite dramatic extent. It wasn't that bad really, but by comparison with the 'glassy' conditions I'd had until then, it seemed as if I was going to fall out of the sky!

At this point I saw a vanload of hang gliders stopped on the main road at the top of the cliffs. Giving them a wave and a couple of wingovers I shouted that I was going to try to get back to Newhaven, and asked them to follow me in case I went down. The trip back was much quicker.

The SSW wind on my quarter helped me to achieve a groundspeed of up to 30mph at times.

Coming back past Telscombe I noticed that a sign painted on the cliff said 'Nude Bathing Beach', and sure enough, when you looked closely, there were the nudists. Apparently they get a lot of problems with voyeurs peeping over the top of the cliffs, and not wanting to add to hang gliding's bad image by adding Peeping Tommery to the long list of alleged crimes, I pulled speed and got along to the next bit of beach very quickly!

From there it was easy — just a matter of tracking the Scorpion down the cliff line until the landing area approached. The whole trip had taken me about 40 minutes, and because of the interest, and the change of scenery, I felt as fresh as when I had started. Just after I landed in a quite excited state, Jeff Lowry came up to me and asked, "Was it difficult?"

"Hell no", said I "It's a doddle".

"In fact, I'm going to do it again". And I did.

If I never go flying again, I'll always remember how good it felt to do that run. One of the things about doing a sport which is so dependent on the weather as ours is, if you keep at it, once in a blue moon things DO turn out right. I'll bear that in mind the next time I'm tempted to go up in dodgy conditions. ☘



# THE ACCIDENT INVESTIGATION AND PREVENTION COMMITTEE REGIONAL REPORTING SYSTEM

A Report by Will Jones, Chairman of the Accident Investigation and Prevention Committee

**T**he purpose of the new reporting system is to encourage the reporting of 'minor' accidents (in this context a minor accident is any accident not falling into the legally reportable category), which otherwise come to light infrequently. These reports are important because, as we all know too well, the difference between minor accident and an accident which involves serious pilot damage is marginal, and often very lucky. Without knowledge of these accidents, where the pilot gets away with a few cuts and bruises or possibly a fracture, the job of accident prevention is made doubly difficult, and statistics lose some of their validity.

The new system, devised by Tony Fuell and John Hunter, dispenses with the need to complete a comprehensive accident report form for the vast majority of these accidents. We hope that taking the formal hassle out of these reports will encourage pilots (or provide less discouragement) to let us have the information that we need. The Committee stresses that *all* information is treated as confidential, and only essential information is ever made public. We are not interested in the "Ha! ha! who's nonked it up then" syndrome, but to get as much information as possible in order to help others. Our purpose is to promote the cause of safe flying, and try to eliminate accidents caused through ignorance and stupidity (and any other accidents as well, of course).

To do this, we need information on all accidents, to give us a guide to which areas we need to concentrate on.

The new system will also help spread the load of work that has over the previous years been borne by the three central members of the Committee — up to this year the Committee has been more or less a three-man operation, and it is high time the work was spread.

The Regional Reporting System has three focal points to which the reports are directed: the Area Co-ordinators, the Accident Investigation Officer (John Hunter), and the Flying and Training Officer (Keith Cockcroft). The accidents themselves can be divided into four sections:

- Legally Reportable accidents
- Other accidents
- School accidents
- Manufacturers' Accidents (principally those with prototypes.)

**LEGALLY REPORTABLE:** ALL accidents in this category *must* be reported at once to John Hunter (Hatfield 71027) either by the pilot concerned or the witnesses to the

## The Co-ordinators

- Tony Fuell South East 74 Eldred Ave, Brighton Sussex.  
Tel: Brighton 502952
- Denis Munde London 94 Cowley Road, Uxbridge, Middx.  
Tel: Uxbridge 39896
- Pat Fry South West 48 Herbert Ave, Parkstone, Dorset.  
Tel: 0202 745840
- Gordon Jago 'Glenhow' High Street, Congresbury, Bristol.  
Phone 0934 838736. Work 022 390 630
- Gordon Wyse Midlands Yew Tree Cottage, Highwood, Eastham, Tenbury Wells, Worcs. Tel: Newnham Bridge 296
- Cliff Poole North West 94 Kelbrook Ct, Offerton, Stockport, Cheshire.  
Tel: 061 456-4114
- Brian Dobson North East Ilkley Riverside Hotel, Bridge Lane, Ilkley, West Yorks. Tel: Ilkley 607338
- Mark Hebden N. Ireland 48 Fitzroy Ave, Belfast 7.  
Tel: Belfast 38318
- Bill Anderson Scotland 74 Grampian Gardens, Arbroath, Angus.  
Tel: Arbroath 75546
- Nick Regan Bishops Chase, School Hill, Wrecclesham, Farnham, Sy.  
Tel: Farnham 5800

## The Accident Committee

- John Hunter 2 Martin Close, Hatfield, Herts AL10 8QS  
Tel: Hatfield 71027
- Tony Fuell 74 Eldred Ave, Brighton, Sussex.  
Tel: Brighton 502952
- Will Jones 30 Brookside Rd, Brooklands, Sale, Cheshire M33 3TE  
Telephone: 061973-2763
- Keith Cockcroft 3 Mill Field End, Midgley, Nr. Halifax, W. Yorks. HX2 6XD. Telephone: Calder Valley 2883
- Reggie Spooner Beaulieu House, 47 Queen's Rd, Cowes, Isle of Wight  
Tel: Cowes 2305
- Judy Hunter (Same address and telephone no. as John Hunter above)

accident:

- 1) DEATH of pilot
- 2) SERIOUS ACCIDENT
  - a) 2 days in hospital within 14 days of accident.
  - b) a repair bill of 50% of the cost of the aircraft.

In death cases the Press Officer, Brian Milton, should also be informed as soon as possible after John Hunter.

In this category the source of the accident (School, Manufacturer, Competition, etc.) is immaterial John must be contacted at once.

### OTHER ACCIDENTS:

The remaining accidents are reported, by the pilot (or witnesses or Club officials hearing of them) to the Area Co-ordinator — see above for list of names, and 'phone number — verbally or by a phone call (or by letter if so inclined), giving brief details of the accident — aircraft type, damage (kite or pilot), site, wind strength and direction and the cause of the accident. THIS WILL BE TREATED AS CONFIDENTIAL.

### SCHOOLS:

Schools should send their reports to Keith as before, but must comply with the directions under 'Legally Reportable Accidents'.

to merit one, or have some unusual aspect or give cause for grave concern. They will have a lot of leeway in making this decision, but help and advice will always be available from any of the Committee members.

Once a month the reports are sent to Judy Hunter, who enters them in the Accident Book. Any necessary information will then be sent to the AIB. At regular intervals the Accident Book will be photocopied, and the copies distributed as required.

Those accidents considered necessary will be investigated by John Hunter and his team. All information is then passed to those dealing with the Accident Prevention side of the Committee for their guidance.

The flow chart printed in January, 1978 *Wings!* shows clearly how the system should operate.

It is up to all of us to make the system work by reporting all accidents that we have or witness to the Area Co-ordinator. It cannot be stressed enough that without information this Committee cannot function as well as it should or is capable of doing, because we have largely been working in the dark.

### ACCIDENT REPORT

COLIN BISSET  
Site: Aviemore, Scotland  
injuries: Multiple, Fatal  
Glider: Wills Wing SST  
Other Equipment: Seated harness with skis.

Nature of Accident: Pilot was seen to take off from the top ski station. At a height of approximately 400ft. he was seen to become detached from the glider and fall to his death.

The BHGA and the Accident Investigation and Prevention Committee strongly urge all pilots to thoroughly inspect their harnesses and suspension systems for faults or any signs of wear and tear. Pilots are also recommended to re-read Tony Fuell's article on suspension systems in December *Wings!*

### MANUFACTURERS:

As with Schools, the directions under 'Legally Reportable Accidents' must be followed. However, information on all accidents or incidents requiring complete confidentiality can be sent direct to John Hunter as well.

### THE FOLLOW-UP:

The Area Co-ordinators collate the verbal information they have received. In some cases, they may press for a more complete Accident Report, in those cases which appear



**KITE SKOOL and  
WASP**

**make a great team  
IN THE MIDLANDS**

for  
**SALES, SPARES & TUITION**  
CONTACT DOUG SQUIRES  
at Kenilworth (0926) 52900/56313

**Kite Skool of Hang Gliding** BHGA, HIA regd

7 MERCIA AVENUE, KENILWORTH CV8 1EU



# BOOK REVIEW

## "METEOROLOGY FOR GLIDER PILOTS" — Third International Edition by C.E. Wallington

(Published by John Murray, £8.50)

Never in the field of human activity have so many people telephone so few meteorologists . . . The man in the control tower at Shoreham Airport seemed reasonably relaxed about the gliders soaring at Mill Hill (this WAS two years ago), but he did feel that he had to enter a slight protest on behalf of the lads at the receiving end of the avalanche of telephone calls each weekend asking which way the wind was going to blow, and how hard. "Why don't you get a copy of Wallington?" he said.

Well, it took me a while to get round to that excellent suggestion, but eventually I did, and very glad I was, too. When you consider the potential variables which affect the weather on the average hill top, it's a real wonder that we know as much about it as we do. But it's not an easy subject, and a relative newcomer to the subject is in dire need of a guiding hand to help him through the morass of technical terms. If the person attached to that helping hand also understands what the pilots of powerless aircraft are primarily interested in, i.e. LIFT, so much the better. And if they can write entertainingly, and ensure that the illustrations actually illustrate what's being talked about, then you'll have a book which is very hard to fault.

Wallington is a standard text for conventional glider pilots, and has been since the first edition came out in 1961. The third edition reflects the author's years of travelling around the world, flying gliders in many countries. He states in the introduction that it has been revised considerably over the years, and is presented in very much the way that pilots have tended to use it — basic meteorology to start with, followed by

specifically gliding meteorology, forecasting and technical notes.

Now that thermal flying is being seriously investigated by hang gliders, his exposition of the theory and observation of thermal shifts with wind shear will be of great interest to those of us who almost invariably enter our thermals when they are being distorted by ground and hill effects.

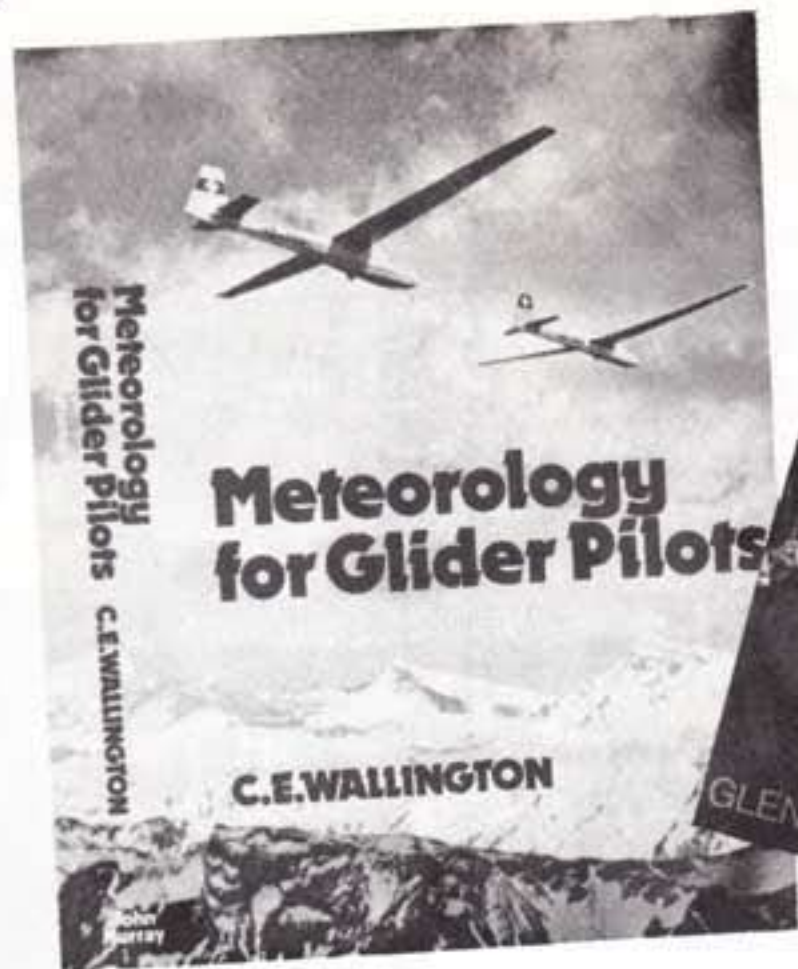
Indeed, as might be expected, the prime sections of the book deal with lift sources, how to find them, how to get into them, what to look out for when you get there, and so on. Just a list of a few chapter headings in the later parts of the book will give you the general idea:— Airflow over hills; Dry Thermals; Cumulus Convection; Thermal Soaring Prospects; Sea Breezes — (very interesting for the South Coast boys, this one!); Lee Waves.

All through the book, the emphasis is on the information that is actually needed, and there is little or no tendency to complicate the text with unnecessary matters. From the hang glider's point of view, some of the lift sources are not practical possibilities at the moment, but as we get up into areas where such phenomena exist, we'd better start learning about them . . . you never know when the REALLY big up is going to come along.

The illustrations are truly magnificent, not so much because they are particularly lavish — they're not, but because the author obviously knows that there are some situations where a small, uncomplicated diagram can get the message across to the reader better than a thousand words of text. A plentiful use of such diagrams means that there is a lot of visual interest.

The price of the book is undoubtedly a bit on the steep side, but it's good value all the same. Certainly a must for those clubs which are starting up libraries of useful information, and for the intending cross-country pilot I would definitely recommend it.

Tony Fuell



## Hang Gliding — Catch the Wind by Glenn Woodward

Publishers: Angus & Robertson (U.K) Ltd. 2, Fisher St, WC1

"Catch the Wind" is possibly the best book I have seen yet which will appeal to fliers and the general public alike. Produced in an A4 soft back format, it is crammed from cover to cover with really excellent photographs, many of them just pleasing flying pictures, others to illustrate the text of the book.

A hang glider pilot reading this excellent album will immediately realise that the author, Australian Glenn Woodward, is a flier totally devoted to our sport as his words follow trains of thought familiar to every keen pilot. Being produced only in 1977, the book is right up-to-date and shows pictures of all the latest Aussie kites.

The first chapter describes a scene we know well; the spectator-crowded take-off area with the usual endless stream of questions, the ice cream vans, cameras. Accurately portrayed in film and print are the feelings and activities of the egotist playing to the crowd and of the gentle soaring pilot.

The thoughts of man past and present follow, showing that homo-sapiens has always had a predilection for emulating the gift of flight given by nature to lesser species than ourselves.

Throughout this book, as with other similar publications, is a liberal sprinkling of quotations by notables such as Leonardi da Vinci's "For once you have tasted flight you will walk the earth with your eyes turned skyward; for there you have been and there you will long to return", and Browning's "A man's reach must exceed his grasp, or what's a heaven for". There are beautiful full size colour photos forming the background for these and other quotes.

A concise chapter on the history of hang gliding covers the well-known exploits of stalwarts such as Leonardi da Vinci, Sir George Cayley, Otto

Lillienthal, Percy Pilcher, Octave Chanute, the Wright brothers, and, Australia's own pioneer, Lawrence Hargrave to whom a memorial stands in Stanwell Park near Sydney.

An account of the modern development of hang gliders demonstrates why, although Australia is separated by distance from other hang gliding domains, its present machines and pilots during 1977 were so good that they demolished the opposition throughout the world, carrying off the laurels at many important competitions. John Dickenson's early efforts in fitting an A-frame to Rogallo's was taken up by Messrs. Bennett and Moyes, who then vied with each other to set all kinds of records. Bill Bennett then went to the States and introduced the A-frame to American pioneers Barry Palmer and Richard Miller who had previously persevered with Lillienthal type hang bars.

Some brief information on records is followed by a few of the author's views on safety; I couldn't help noticing that a great number of the fliers pictured in this book weren't wearing helmets! An interesting photo in this chapter shows Ken Battle creating his own private fireworks display by flying into an 11kV power line.

Just as in this country, Australia's fliers appear to have site hassles and, seemingly, government interference through their Department of Transport; perhaps I won't emigrate, after all.

In summary, this book, published by Angus and Robertson, would be excellent value for around £3 (I don't know at what price it might be sold in the UK). The only criticism I could level at it was that, as a keen flier, I felt the pictures could have had more information on the type of kites, the names of the fliers, etc. You would enjoy this book, however, first for the quality and multiplicity of excellent photographs and, secondly, for the feeling that Glenn Woodward puts into the text. A pity it missed Christmas.

Trevor Birkbeck

**DRAWN SEAMLESS TUBE to BS-1471-HT-30-TF**

1 3/4" O/D x 18 swg x 22'0"	—	£11.00 length
1 3/4" O/D x 18 swg x 20'0"	—	£10.00 length
1 1/2" O/D x 18 swg x 23'0"	—	£ 9.00 length
1 1/2" O/D x 18 swg x 22'0"	—	£ 8.50 length
1 1/2" O/D x 18 swg x 21'0"	—	£ 8.00 length
1 1/2" O/D x 18 swg x 16'0"	—	£ 6.50 length
1 1/2" O/D x 16 swg x 18'6"	—	£ 9.50 length
1 5/8" O/D External Sleeve	—	65 pence per foot
1.39" O/D Internal Sleeve	—	65 pence per foot
1 1/8" O/D x 17 swg x 16'0"	—	£ 7.00 length
1" O/D x 14 swg x 16'0"	—	£ 7.00 length
1" O/D x 16 swg x 16'0"	—	£ 5.50 length

The above is just a sample selection from our huge range.

**Aircraft quality bolts-**

A full selection of 1/4" and 5/16" plated bolts, locknuts and wing nuts, all released to us for aircraft use.

**HARDWARE-**

Check our list for stainless tangs, rigging screws, plastic-coated rigging wire, pip pins, over centre levers, saddle washers and a host of other goodies.



We now carry a stock of Hiway hardware, nuts, bolts, deflexor blades and tubes.

**SPIRIT-**

Contact us or Flexi-Form Skysails for full details of the construction package for this fine, customer assisted manufacture glider. Soar with ease at a price you can afford.

**VECTOR**

Sky out with this latest glider from Paul Maratos the Vector is a high performance flying wing, featuring truncated tips and a fully-cambered floating keel. Available as a ready to fly glider, or on the C.A.M. scheme.

**VARIOMETERS-**

We are agents for all the leading Variometer manufacturers and currently have in stock (September) Sky, Wasp and Electra audio/visual units, plus the H.S. of H.G. pith ball vario. We also handle the superb Ball audio/visual variometer for those who want the very best.

**ALTIMETERS-**

A must for the serious flyer. 'Thommen' wrist mounted, fully guaranteed, complete with velcro wrist strap. 'Handy' Japanese inexpensive units and reconditioned ex R.A.F. Altimeters are all currently in stock.

**INSTRUMENTS**

Barragraphs, wrist compasses, strobe lights, airspeed indicators ventimeters and anything else you may need.

Please write (enclosing stamp) for our latest stock and price list to:



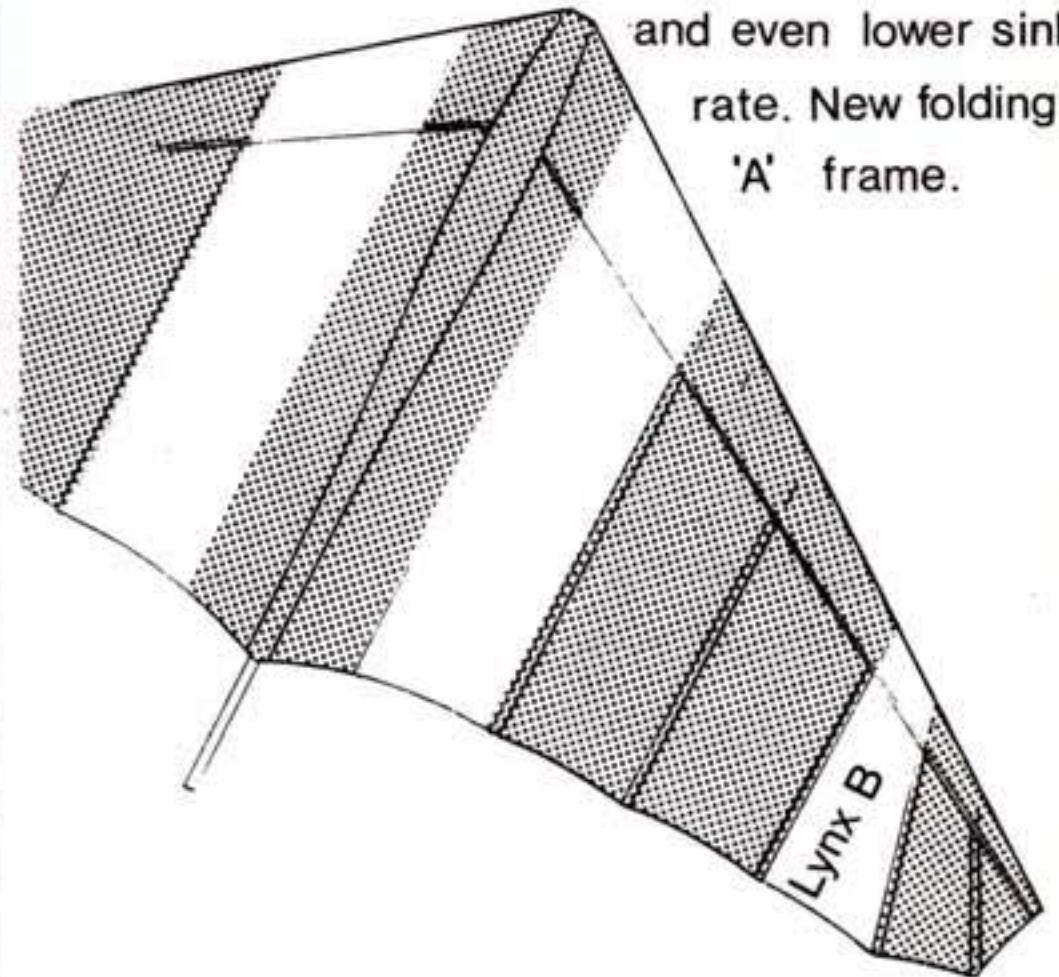
John Hudson,  
**The Main Welding Co. Ltd.**

Shawclough, Rochdale, Lancs.

**NEW FOR '78 !!**

**Lynx B** High performance for all pilots.

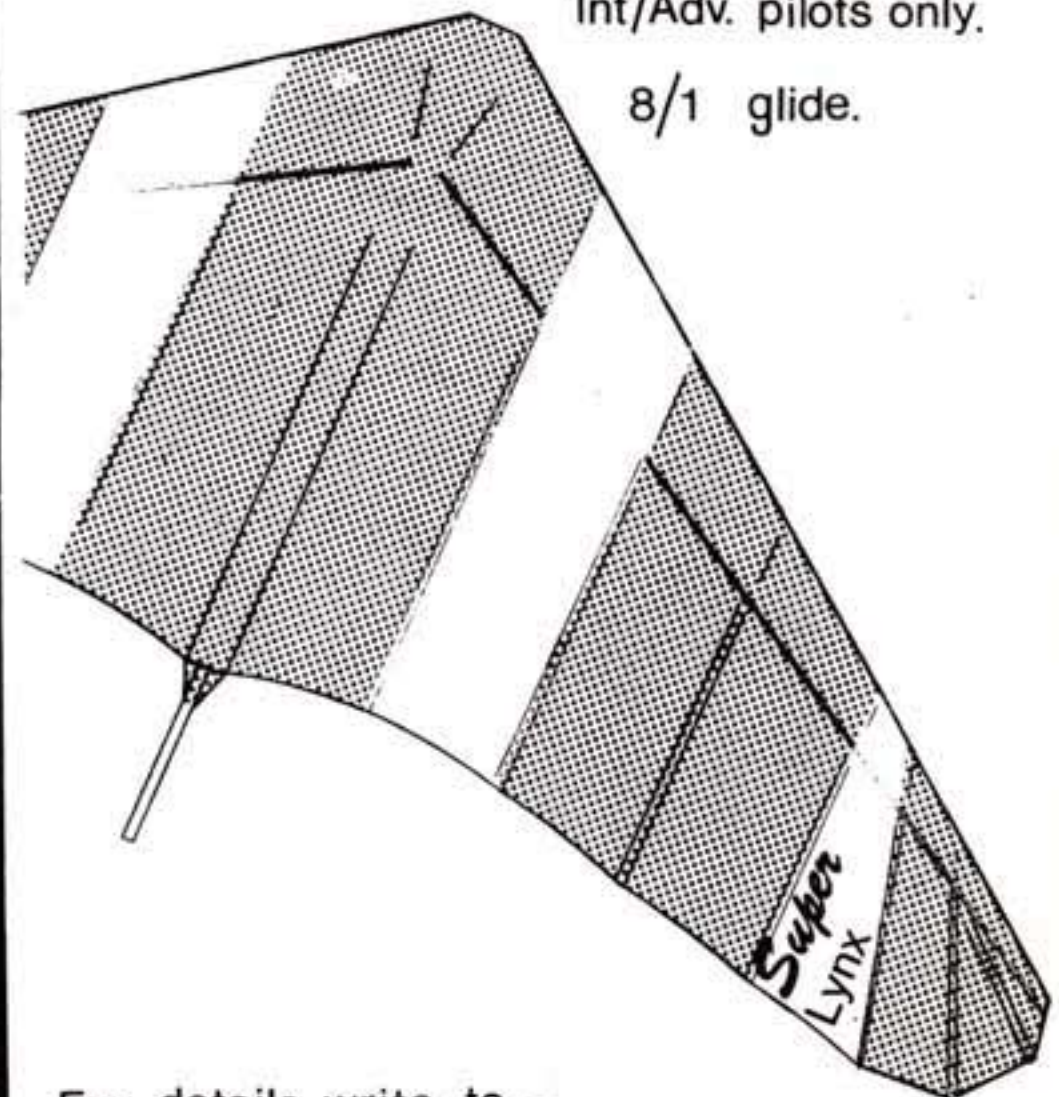
Revised sail design gives lighter handling and even lower sink rate. New folding 'A' frame.



**Super Lynx**

Competition machine for Int/Adv. pilots only.

8/1 glide.



For details write to -

**McBROOM SAILWINGS Ltd.,**

Now in larger, central factory :-

Unit E,

60 REDCLIFFE ST., BRISTOL 1.

# Southern School of Hang Gliding



We run training courses 7 days a week. This includes 2 and 4 day courses leading to BHGA certificate levels. Our school is fully BHGA approved and insured.

**NEW**

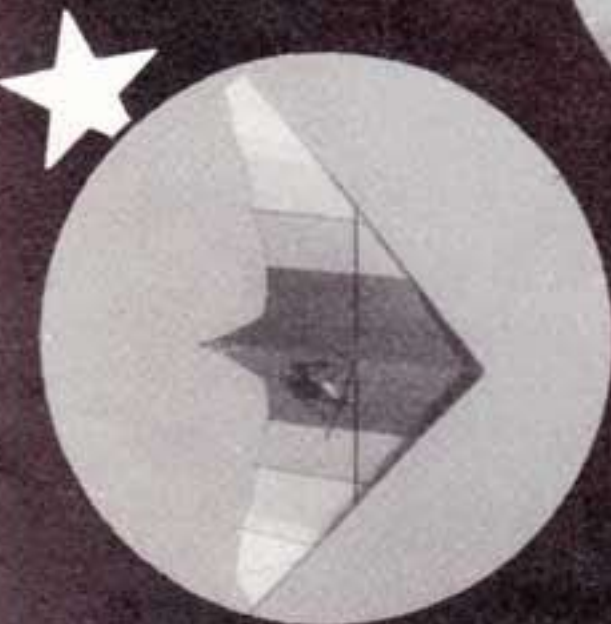
A must to tidy up your instruments. Hallam 'Streamline' Instrument Pod. ABS plastic and aluminium light and strong. Takes 3 standard instruments. Fits on to standard 1in or 1 1/8 tube. Approx 100gms. 10 x 12 x 28mm. £10



We are Southern Agents for Chargus and Electraflyer. Contact us for a test flight on the Vega II, Midas E, new Olympus or the Cirrus range.



We have Scorpion B's and C's. Contact us for quick delivery of this new range of Hi Way kites.



We buy and sell gliders. Trade in your old or buy a new one, or save money on our second hand stock of nearly new Vegas, Cloubases and Midas E and C's.



11c Denmark Terrace • Brighton • Sussex  
Telephone: Brighton 25534  
Ask for Graham Slater

Is it a man?

Is it a bird?

Is it a 'plane'?

No, it's just a plain

# Birdman

Well actually it's Dave Raymond on his new design for this year, the MOONRAKER'78. Very radical, very original and very high performance.

A big 'thank you' to all the nice people who kept us so busy in '77 and saved us the cost of advertising since the Spring.

## Birdman Sports Ltd

OVERTOWN HOUSE, MILDENHALL, MARLBOROUGH.

Telephone: 0672 53021

**BE AN INDIVIDUALIST** Fly the craftsman made kite for the discerning pilot. The Hustler has phenomenal glide-angle and penetration capabilities that are astounding everybody.



## HUSTLER



Flying the Hustler is an absolute delight, because of the immediate feeling of smoothness and stability. Its response to control inputs is positive, and excessive movement is not required even for extreme manoeuvres. The ease with which the Hustler soars, and the light, nimble characteristics make it a very attractive glider.

Radial tips stabilise the Hustler throughout its entire flight envelope. Hands-off stall and dive flight tests have shown quick and positive recovery. It can be controlled immediately upon take off even at low speeds, and exhibits no tip stall tendencies when landing in still air.

For more information or trial flights, write to **JOHN GLOVER, AVON KITES,** 112 STATION ROAD, FILTON, BRISTOL or telephone **ROGER FULL, ST. IVES 7651**

### Manufacturers' Announcements

#### ANNOUNCEMENT FROM HIWAY

A few early models of the Hiway Scorpion produced before May 1977 were not fitted with the fin-strengthening webbing look around the keel. Owners of these models are advised to contact the Hiway factory to have their sails updated to ensure optimum serviceability from the machines.

#### ANNOUNCEMENT FROM CHARGUS

Recently, two pilots have managed to deform the deflexors on their old style Midas Es (i.e. double wingpost system). Observers reported that the deforming occurred during high load manoeuvres, i.e. side slipping 360's terminated by abrupt, full forward pitch control movements. The leading edges suffered no damage and both pilots landed safely. Original component testing indicates that enormous loads were necessary to deform the deflexors in this way. Therefore, it cannot be totally eliminated that prior damage and incorrect rigging may have had some bearing. It is also worth remembering that no hang glider on the British market today, has a fully aerobatic rating and pilots in the habit of executing high speed manoeuvres of this type, which subject their gliders to unnecessary loads would be well advised to make sure that their deflexors are modified accordingly. (For info. ring Buckingham 4321).

# INFORMATION



Well if you pay £500 for a kite why turn your back on it

## LONG MYND SITES

After discussion with Hugh Hutchinson of The Hang Gliding Federation of Wales we wish to point out that all but one of the Long Mynd H.G.C.'s major sites are in mid-Wales. Each of which has been negotiated for in accordance with the B.H.G.A. code of practice. Our most westerly site being Clatter.

Would anyone wishing to fly Long Mynd Club sites please contact us at Linley 322 for site rules and any other help we can give.

If the site you wish to fly is not one of ours we can immediately supply the name and phone number of the appropriate club within the Welsh federation in whose area that site happens to be.

Lesley Bridges  
Secretary, Long Mynd H.G.C.

## NORTH YORKS SAILWING CLUB

The Associate Membership Subscription for 1978 has been fixed at £5 payable to the 'Treasurer', Bob Willis, 16 Neasham Avenue, Marton, Cleveland.

## IRISH OS MAPS

Anyone requiring Ordnance Survey of Ireland can obtain them from APCK bookshop, 37, Cook Street, Cork. The shop has asked us to point out that the maps are 97p PLUS 10p postage. Don't forget the postage or you may not get your map.

## TRAVELLING LECTURES

Continuing the policy laid down at the Buxton Conference on training, Keith Cockcroft and myself are getting together as much help for club coaches as we can. One of the many facilities that the BHGA wishes to offer to clubs is a continuously updated list of specialist lecturers who would be prepared to visit clubs (expenses paid) and give talks on subjects specific to our field of aviation. If you feel that you can present a talk on any of the following subjects, or indeed any other subject that you feel will be of interest please drop me a line to Malcolm Hawksworth, c/o Hawksworth Skysports Ltd. Upper Hulme, Leek, Staffordshire. Please let me know also if you have any useful visual aids, or films etc. Subjects: Aerodynamics, Airworthiness, Meteorology, Aviation medicine, Advanced/cross-country flying, Air Law, Civil and Military Aviation in relation to hang gliders using the same air space, Hang glider tuning, Instruments and the use of.

Malcolm Hawksworth

## SOUTH WEST WALES HGC

Any BHGA member not resident in Wales who wishes to visit the South West Wales area (including Rhossili) must take out 'Visiting Membership' of the S.W.W.H.G.C. 'Visiting Members' will be made most welcome and will receive all newsletters and site information (when available) but

will not be eligible for the reciprocal flying rights which 'Full Members' are entitled to, i.e. flying in other W.H.G.F. Club areas, such as North, Mid and South East Wales. The 1978 Visiting Membership fee is £5.00 and should be sent with any inquiries to the Secretary: Rob Symberlist, 539 Gower Road, Killay, Swansea, West Glam.

N.B. Contrary to the notice published in *WINGS!* (January 1978) the 1978 W.H.G.F. Whitsun 'Fly-in' will not be hosted by the South West Wales H.G.C.

## MOTOR GLIDERS

International Meeting for motor gliders and pilots is planned at the Wasserkuppe in West Germany.

For more information write to : Josef Tezner, Canarisweg 7, 3 Hannover 91, West Germany. Telephone 0511/464729.

## DUNSTABLE HGC

Dunstable Hang Gliding Club has a new secretary, Dennis Munn, 94 Cowley Road, Uxbridge, Middlesex, Telephone Uxbridge 39896.

The club flies under the control of the Dunstable Gliding Club, in whose air traffic control zone we operate in, and has to adhere to strict rules in order to fly Dunstable Downs.

We have an improving relationship with the Gliding Club and in recent months they have allowed a relaxing of the restrictions on certain days in order for the opportunity to try for cross country flights etc.

As we only have one hill which we fly from, we do have severe over crowding at weekends.

We still continue to welcome responsible visiting fliers, as long as they adhere to the restrictions under which we fly.

We operate a temporary membership system which costs £1 for seven days. So please, if you do come, see the site marshall and he will inform you of what you can and cannot do.

## 'PICO' INTERNATIONAL HANG GLIDING INVITATIONAL

An international hang gliding event is to be held at Killington, Vermont, Canada. There is a proposed purse of 15,000 dollars. It is a nine day event from May 20th to June 4th. Entries must be in by March 31st 1978 so interested parties should contact John Hudson, Overseas Competition Co-ordinator, Labrican, Healey Dell, Rochdale, Lancs. as soon as possible.

## BHGA SOLICITOR

Anthony Maclaren, BHGA Solicitor has told us that he wishes to stand down, so we are now looking for volunteers to fill the vacancy. Will anyone interested please contact the Secretary, Chris Corston.

## SSA CHAMPIONSHIP

Contrary to the statement in last month's *Wings!* class III hang gliders are eligible for entry as well as class II machines. Entry details appear in the insert in this *Wings!*

## BHGA ADDRESS

All BHGA correspondence should now be sent to:

167a Cheddon Road, Taunton, Somerset TA2 7AH.

All mail sent to Monksilver and 2, Lynch Down, Funtington will be forwarded for many years to come BUT this mail takes several days longer to reach us.

## RHOSSILLI

Rhossilli will be closed for the lambing season from late February to late March. Check with SW Wales HGC before going to fly.

## MEMBERSHIP RENEWAL

Membership numbers 6784 to 7059 are due for renewal on 1st April 1978.

## PRONE HARNESSSES

Professionally made from the highest quality materials. Superbly comfortable swing seat and stirrup design, all fully adjustable.

for further details tel:-

**Kettering (Northants) 711636**

# small ads

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

**10 mins from Hole of Horcum, N. Yorks.** Hang Gliding enthusiasts offer Bed/Breakfast (supper and packed lunches optional). Telephone: Thornton Dale (075 14) 704.

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

**\*Electra Flier Cirrus 3**, as new condition. £320 for quick sale. One Scotkites prone knee hanger harness £20. Tel: Bolton (0204) 45151, day and most evenings.

**Wasp CB 240.** Good condition, Kossen model, prone/seated controls, seated harness and helmet. £180 o.n.o. Anyone interested in this or (if in London area) in **Joint Purchase** of advanced glider, phone Peter Winbourne 01 223 9807

**Phoenix 8 medium** £475. Sale due to house purchase. Contact John Stirk, The Garden Flat, 10 Mount Pleasant, Ilkley, Yorks.

**Wasp CB.** Prone, seated controls, seated harness, dacron sail, blue, white, yellow. Carrying bag. Price £120 ono. Tel: High Green (Sheffiled) 8457.

**Midas C** perfect condition, white sail, seated or prone, recent airframe check. Ex Jo Binns, bargain at £300. Tel: 01-868-9709 or (daytime) Uxbridge 52105, ask for Jim.

**Miles Wing Gryphon 1** £200, good condition. Airstream prone harness £20. Cosim variometer and ex-RAF altimeter in combined unit £30.

British Para-Venture flying suit, suit person around 5ft. 6in. £10. Tel: Collingham Bridge 2796.

**Cobra 188.** Sky blue, white and yellow sail. Ideal beginners kite. Seated/prone rigging. I learnt prone and have had many soaring flights on this excellent kite. With seat £150. Tom, Cheltenham (0242) 27208, evenings.

**Cloudbase Super Deluxe 19ft.** All orange. Excellent condition. £280. Steve Bentall, Swansea (044 128) 3763. (On the road to Rhossili).

**Amazing Firebird S.** 9 months old, immaculately maintained. Go from learning to prone soaring. Responsive, stable and easy to fly. C/w seated harness and bag. £325 ono. 01-637 7671. Ask for M/two six.

**Moonraker.** J. & B. 2. Brother of glider at bottom of the channel. £370. Tel: Brian Milton at St. Albans 55231.

**Beautiful white Midas E** for sale. 6 months old, never pranged, with adjustable C of G strop and new preformed battens. £390 ovno. Tony Elsdale, evenings. Tel: Ickford 298 (Oxford).

**Immaculate Falcon IV B 'S'** Thermal Eater. Ten flying days old. White with beautiful coloured tips. Advancing EPC's consider; excellent handling, soarability, speed range, looks and new condition! £390 ono. Gryphon ordered. Tel: 01-969 2788

**Falcon IV** breakdown version, white with red leading edges and maple leaf motif. £370 ono. Tel: Tony Mancey at Medway 361545.

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

**Wasp Falcon III.** Very good condition, one year old. Recently overhauled and tuned. Three colour sail. £325. ono. Contact Phil Wilson 0702 (Southend) 526384 (can be viewed on South Downs).

**Hiway Super De Luxe XX 20ft.** Cloudbase. Sky blue with white tips, Bainbridge dacron. Bag included. £270 ovno. Tel: Robin Pattenden, Herne Bay (022730) 61207.

**Cirrus 3.** Beautiful sky blue dacron sail, with fibreglass battens. Carefully used machine, never been bent. Superb performer with prone and seated rigging. Carrying bag. New last August. £370. Tel: Johnathon Murphy at Cwmbran 62314.

**Wasp C4 221.** Very good condition, yellow and red, seated, with carrying bag. £115. Tel: Southend-on-Sea 520060. Essex.

**Falcon 3** in excellent condition with seated harness. Red and white sail. Carrying bag. Very little used. £340. Tel: Knightwick 681, evenings (Worcester).

**This is your chance to buy my fabulous Moonraker 'as seen on TV'.** Excellent condition — complete with bag. £390 — new glider on order. Tel: Roy Hill, Oxford 735204.

**Super-duper white Midas E.** Only three months old. 6 hours soaring. Looked after like a baby. Yours for only £410 ovno. Tel: Mervyn, Crediton 3262 (office hours).

**Lester Cruse's Wasp C5.** Perfect, quiet, multicoloured terylene sail, prone frame, reversible rigging for seated. Wing wires, keel cambering. Bag and harness included. Offers. Tel: 01-778

2434 (evenings) or 01-854 2226 (evenings).

**Wasp Falcon III.** Ideal first kite through to intermediate. Complete with 'A' frame spares. Contact Carl Ford 0222 705851 (Cardiff).

**£375 Falcon IV B.** 2 months old, as new. Beautiful colours. Titchfield (Hants) 43281.

**Birdman Hawk.** Clean sail, new control bar, seat harness and rigging, plus carrying bag. Ideal for beginner. Bargain at £100. Tel: Freshwater 3014 (Isle of Wight).

**SST 100B.** All white sail. Scorpion-type control frame. Nearest offer £400. Contact Bill Newton at Hawksworth Skysports Ltd. Upper Hulme, Leek, Staffs. Tel: Blackshaw 231.

**Midas E** £380. 4 months old. Dark blue, light blue and white sail. Perfect condition. I want to buy the latest Mk II E. Guy Burton, 4 Avon Road, Keynsham, Bristol. Tel: 3447.

**Falcon III** excellent condition. Spare A-frame and king post. 10th in 1978 League Qualifying Competition. £320 inc seat and bag. Brendan Chaplin. Tel: 01-668 7749 (Croydon).

**Wasp C4 221.** Red/white/blue sail. 18 months old. Very good condition. Excellent soarer and forgiving handling for beginners. £160 ono. Tel: Brighthouse 719539.

**Phoenix 6B Medium.** Possibly the best 6B in the West Country. Excellent condition, impeccable handling (due to keel pocket mod). One time British Cross-country record holder (22 miles). Only £400. Tel: Nigel Milnes Bristol 32972.

**22ft Spirit.** Fitted with pulley system for lighter handling. Carefully maintained, distinctive assymetric colour scheme. Flies well. £285. Tel: Croston (0772) 600582.

**Red Argus.** Rigs for prone or seated. New large A-frame, lower rigging and seat. This

is a quiet and well cared for standard complete with carrying bag for £120. Tel: Street (Somerset) 45031.

**Hiway Scorpion B.** Nearly new. Prone with seated/supine conversion bar as a clip on extra. Bainbridge green, red, orange through to white. Negative wires and carrying bag. £400 ono. Telephone Mark Woodhams. Brighton 501043.

**Colver Audio-Visual Variometer.** Excellent condition and low mileage. Offers please to Phil, Blackburn 58924 evenings.

**McBroom Lynx** Immaculate condition, only 8 months old. House purchase forces sale of this super kite. £300. Tel: Stratton on the Fosse 232365.

**17ft. Skyhook 4A.** 18 months old, with seated harness. Ideal training craft. £135 ono. Graham Rowlands, 6 Beech Road, Sebastopol, Pontypool 57221. Working hours.

**SHRIKE!** **Skyhook IIIA.** Black/White, good condition. Ideal beginners, soars well. Offers! Robert Heap. Bradford 592659 after 7 p.m. or Chris Yates. Bradford 306787 days.

**Wasp CB240,** Orange, good condition. Strong soarer, prone and seated harnesses. Suit, beginner or pilot wishing to go prone. Reason — SST imminent. £160. Ian Ferguson, 73 Dale Street, Lancaster, Lancs.

**Hiway 220,** blue, rigged seated or prone with new seated harness and bottom rigging. Also carrying case £150. Tel: Stevenage 61393 after 6 p.m. or weekends.

**STOLEN SST 100B,** purple/red/orange/gold/with triple deflexors. No pulleys, collapsible A frame, oversleeved spar, tear on left wing 9 in. from heart bolt. Owner still trying to trace this glider taken from Edinburgh before

Christmas. If anyone can help, please phone 031 551 1075 anytime.

**For sale — Miles Wing Gulp 130b** with spare sail. Owner finds it difficult to fly from HMS Ark Royal. (The catapult speed is a little high). No reasonable offer refused. Please ring Crewkerne, (Somerset) 72434.

**Wasp C4 221 2½** years old, yellow/black sail, anodised control frame, spare c/f upright, seated harness and bag. Picture supplied if necessary. £145 ono. Tel: Downland 53769 (Surrey).

**Skyhook IIIA** variable geometry. Ideal for beginners, terylene sail, 22 months old. Complete with harness and bag. £100 John Bevan (Malvern HGC). Tel: Spetchley 420.

**Shyhook IIIA** for sale, excellent condition, seated harness, blue sail, top rigging. Ideal first kite, £120. Tel: Roger, Luton 55776 evenings or weekends.

**22ft. Spirit,** pulley deflexors. Keel out — White, Light Blue, Dark Blue, Purple, Black. £300. Styrene pellet variometer with flasks (See November Wings!) £15. Dave Weeks, High Keld, Chesnut Hill, Keswick, Cumbria. Tel: 72315.

**Midas E** for sale, mint condition, Wasp prone harness. Also available, made to measure high quality prone harnesses. Tel: Llanberis 707.

**Hustler,** small size. Orange and white. Brand new. Only test flown, hence £400. With bag. Tel: Roger Full, St. Ives 7651 (day).

**Birdman Hawk** with seated A frame, also prone A frame and rigging. £150. Tel: 031 334 3933 after 6 p.m.

**Flexiform Skysails.** Top performance begins at £330 new. Spirit and Vector agents: Steve Allen, Kettering 760023. Mike Adam, Merthyr 3780. Roy Acott, Dover 204171. Freeway HG Centre,

Hinckley 38995. John McConnochie, Inverness 066 76 2414. Paul Maratos, Manchester 707 1389.

**Scorpion 'C'** Dacron sail. Mainly white with red and yellow. Incredible floater and cross country machine. Ask Bob Calvert, he flew 18 miles on it. £390 for quick sale. Tel: Kevin Malony, Chorley, (Lancs) 71079.

**Instructor wanted.** (Either single or married). Tel: Adam, Merthyr Tydfil (0685) 3780.

**Folding A Frame Kits.** You supply the tube, we supply the brackets in high quality stainless steel. £10 inc. P & P. Send for details: David Garwood, 48 Lambert Road, Sprowston, Norwich, Norfolk.

**Bob Bailey's Yorkshire Hang Gliding Centre!** Glider sales, new and used in stock, spares, varios, altimeters, compasses, etc. Basic and thermal tuition, starting April. More information from Bob Bailey, 2 Denton Avenue, Leeds 8. Tel: 662518 or 692333.

**Secondhand Wasp Falcon III's and IV's.** All in perfect condition and tested. £300 to £375. Other secondhand high performance gliders available at reasonable prices. New Gryphons now available. Contact Lester Cruse. Tel: Downland 54322.

**Snowden View** — Charming converted barn, open plan with sleeping loft. All electric mod cons, plus open fireplace. Beautiful surroundings. Very close prime flying sites. Sleeps four plus. Some summer weeks still available. Tel: Llanberis 707. **Birdman Firebird 'S'.** Ex-factory prototype Firebird S. Blue terylene sail, good condition, no accidents. An excellent flier and ideal intermediate kite. Harness and kite £210 ono. John Dent, Oxford 40902.

**SST 100B.** All white sail, collapsible and fixed frame. (Prone harness and seat if required). £435. Owner has X-C fever. Tel: Kettering (0536) 516778.

**For sale large Vector.** Only 7 months old. Real high performer, good condition. £400 ono. Tel: Houghton (025485) 2578 or Preston (0772 725) 943 day. Also wanted. Plans for Mitchell Wing.

**Chargus Aquila 240.** As new condition, with bag and harness BHGA registered. Good dual kite. £260 ono. Tel: John 021-707-1505. (Birmingham).

**Birdman Firebird Mk II 19 x 16.** Blue/orange/gold, excellent condition. Superb soaring machine. £240 ono. Tel: Mike Ramsey, Cramlington 712220.

**Midas E.** beautiful condition, six months old, Blue and white sail. £375 o.n.o. For further details Tel: Terry Graham 021 523 6923

**Birdman Firebird 'S'.** Blue and yellow sail. Flies and soars beautifully. £220 o.n.o. Lindsay Newbold, c/o Bilston (0902) 44613

**Wasp B3 229.** In excellent condition. Light

Blue/orange/yellow/sail. Complete with bag, seated harness and some spares. £80 o.n.o. Phone Paul, Linley (058 861) 322

**Sunspot.** Good condition. Flies well. Seated or prone. Tuition given. £345 o.n.o. Bob Bailey, Leeds 662518 or 692333. 2 Denton Avenue, Leeds 8. **Skyhook 18ft. Mk.4.** Multi-coloured sail, nearly 2 years old, but hardly used and stored indoors. Complete with bag, seated harness, helmet and ventimeter. £125. Ring Mike. 061 624 9961 (Oldham)

**Rogallo Argus.** Believed 1974, spare A-frames etc. helmet. £100 o.n.o. Dartmouth 2259 (Devon)

**McBroom Argus.** Blue/red. Well cared for, with seated harness and bag. £80. Phone Jean at Acton Burnell (Salop) 237 or Lesley at Linley (Salop)332.

**Scorpion C for Sale:** Superb condition. Also Colver audio-visual vario. Bob Calvert, 390

Preston Old Road, Blackbury, Lancs. Tel: Blackburn 21615.

All American Manta wings available in UK distributed by Lester Cruse. Full sales, service and spares. Introducing USA's latest starship the Fledgling II. Full details in next month's *Wings!* or phone Downland 54322.

**Chargus Vega IIA.** Nice kite to fly, good handling, gets up with Scorpions, SSTs, Falcons etc. Ideal intermediate kite for progression from EPC. £300 ono. Phone Chris Roberts, Southend 527457 (home) or Canewdon 626 (work)

Second-hand high performance wings including Falcon III's and IV's all in perfect condition and tested — £300-£375. Contact Lester Cruse on Downland 54322.

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

£58

£58

## AT LAST! A GOOD VARIO

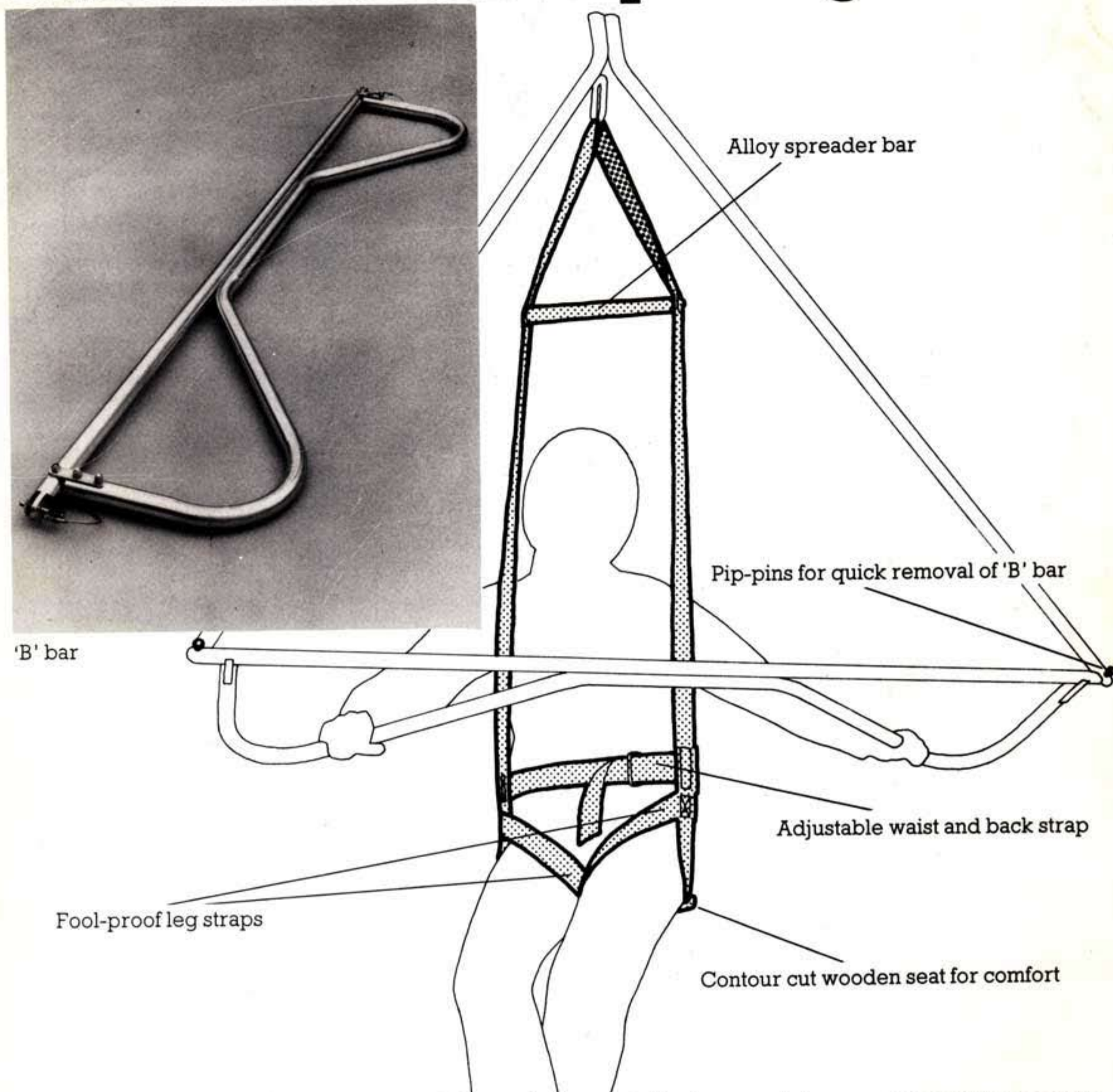
### AT A PRICE YOU CAN AFFORD.....NOW

1. Easy read climb-descent indicator.
2. Audio threshold control for 'audio off'.  
Silent in sink or continuously variable tone.
3. Sensitive. 4. Light but strong. 5. Low battery drain.
6. 4.75 x 3.75 x 2.5 inches. 7. 3 MONTH GUARANTEE.
8. And the price? **£58** Including VAT, P&P Etc

### INTERESTED?

SEND A S.A.E FOR FURTHER DETAILS TO  
CASEDEN LTD, 6 HIGHFIELD PLACE, SARN,  
NR BRIDGEND, MID GLAMORGAN, CF32 9RR

# The neatest seated package ever!



The new seated conversion bar or 'B' bar as it seems to be known, lets you convert your prone only rigged Hiway glider to seated in about 5 seconds! You simply release the normal bottom bar of the triangle by removing the two pip-pins and clip in the 'B' bar.

The 'B' bar is designed so that you get both better push-out and dive control than conventional seated systems. In tough winds you'll be grateful for those extra inches you can pull yourself forward.

The Hiway seated harness is one of the simplest, most comfortable and secure available. For long duration flights or just having fun Hiway once again give you the ultimate in comfort and handling.

