The advanced Vortex 120
(Price £465 including VAT and bag)

Joe Binns 360's his V-120 ahead
of an advancing storm front

Chargus
Gliding Company Limited
Gawcott, Buckingham, Buckinghamshire.
Telephone Buckingham 029 02 4321

Richard Kenward Photography
Flying comes easy

at Ashley Doubled's

Birdman Flight Training School

MILDENHALL MARLBOROUGH WILTSHIRE

BHGA Registered, using CAA approved radios, Static and Gliding tethers, Keel astatic, 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

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PROTEC

Wishes to congratulate the British Team on their success in the America's Cup.

Protec Flying Suits as worn by the British Team - £15.50 + 50p p. & p.


To PROTEC, 11 Sinclair Road, Killeen, Bangor, Co. Down, Northern Ireland.

Telephone: BANGOR 55764

Please send me Suits at £ plus ... p&p.

Size

Colour

I enclose my cheque/money order for £

Name

Address

______________________________

Please allow 21 days for delivery

Cheques to be made payable to Protec.

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mainair sports

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WISHES YOU A HAPPY NEW YEAR

AND MAKES A RESOLUTION

At Mainair Sports our new year resolution is to offer an even higher standard of service to our many customers than they are already used to.

To start our resolution we would like to offer you, free of charge, our new Stocklist Catalogue. It comprehensively lists all of our stock, with each item clearly and accurately illustrated, so that you know what you are buying. It has many other benefits such as full descriptions of the functions of a very large range of various and other hang gliding instruments, ensuring a wider choice at the turn of a page.

If you ever buy hang gliding accessories and want the biggest selection of items at your fingertips, send a large self-addressed stamped envelope to Mainair Sports.

Enclose no money — its FREE (Current price list also included).
Parachute Equipment Sales
Full Rigging Service
Aircraft Lease

Hang gliding requires a high degree of quality and performance from its equipment. A hang glider alone is not sufficient to produce high performance results. The difference is accessories. To get maximum lift, control and support, Wills Wing offers a complete line of professional hang gliding accessories to complement gliders and allow top soaring performance.

Soar in Comfort.

When Chris Price designed the Price Harness he developed a quality harness for pilot comfort, support and safety. Three-inch aircraft type webbing, fully padded shoulder and leg straps and a foam-filled body ensure durability and comfort while soaring.

£59.50
POSTAGE £1.00

Price Harness

Pilots have the option of soaring in standing, seated or prone positions. A standing position enables the pilot to plunge into an aggressive, controlled take-off run and later prepare for a final approach to landing. While in a seated position, the pilot maintains a lower center of gravity which allows greater glider control in turbulence and while thermaling. Pilots locked into prone position possess a positive relationship with the glider for maximum comfort.

The Price harness is standard in six sizes and four colors. Comes complete with adjusters, strop, locking carabiner and two control bar hang loops.

Custom features are also available on request.

Responsive and Sensitive.

Designed by Colver Soaring Instruments and exclusively distributed by Wills Wing, the latest Colver Variometer (5XC) offers hang gliding pilots a complete range audio and visual instrument to get the most our of lift conditions.

It comes equipped with a dual range switch that provides a choice of sensitivities for mild and strong lift conditions. A super sensitive audio delivers the quickest possible response to lift. And, a damped visual dial permits easy reading and a slight averaging effect.

Choice of either "continuous audio" or audio for "up only" is possible from a front panel toggle switch.

For optimum soaring flight, the Colver (5XC) is entirely self-contained and streamlined for minimum drag.

A Lift in Performance.

The Thommen Altimeter is designed especially for hang gliding pilots. A high degree of compensation is achieved for unequalled accuracy in temperature change conditions. And, a highly visible, orange day-glo needle spored against a black face with easy-to-read white numerals of 20-foot increments to 15,000 feet provides quick and accurate viewing of soaring altitude.

Durably constructed, the Switzerland manufactured Thommen Altimeter contains nineteen jewel oil-free movement parts. Standard with a velcro wrist strap.

Instrument Consolidation.

By consolidating the three most important flight instruments into one streamlined lightweight deck, the new CHAD AVT™ Flight Deck allows easier viewing, faster response and better soaring performance.

The flight deck combines the Colver Variometer (5XC), the Thommen Altimeter and an optional digital elapsed time meter. All protected from impact in a resilient molded shell.

£219.00
POSTAGE £1.00

CHAD AVT™ Flight Deck

Weight of the flight deck is only 2¾ pounds — far less than the instruments in their original mountings — and it's compounded curve design reduces drag.

Better soaring performance is the objective. Our accessories can help you achieve it. All are available through Wills Wing, Inc., or your local hang glider dealer. Performance like you've never experienced.

Also available from

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Tel: 0903 892 770

Brian Wood
27 Leonard Road, Bromley, Kent.
Tel: 01462 5212

Colver Variometer (5XC) £116.50 POSTAGE 80p
Skysports Ltd.
12 HORNE ROAD, BULFORD CAMP, WILTSHIRE, SP4 9AE, ENGLAND
TEL: (09803) 3460

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Full Rigging Service
Aircraft Lease

**EQUIPMENT BAG (18" x 12")**

This Dupont Nylon Cordura bag has a ½" heavy duty zip and comes in most colours and combination colours.
£12.00
Postage 50p

**KITTING POSTERS**

These 18" x 22" high quality, full color lithographs are ideal for framing and for gifts to hang gliding enthusiasts.
£1.20 EACH
Postage 20p.
(Regardless of Number)

**HANG GLIDING: THE BASIC HANDBOOK OF SKYSURFING**

(revised edition)

This book has become the Bible of hang gliding, its major and most authoritative text. All aspects of the sport are covered, from launching and flying to construction and maintenance, materials and design. The technical data is especially comprehensive with charts and line drawings illustrating almost every item. There is even a section on hang gliding and the law. It is all fully illustrated and well written and will answer any question you have (and hundreds you haven't thought of yet). 199 pages. Written by Dan Poynter.
H 3000. Paper-bound. Published by Daniel F. Poynter.
£2.55 + 30p P & P.

**KITE BAG**

Bags are custom made and price depends on length required. Made from Dupont Nylon Cordura with full length ½" nylon zipper. Ends double thickness with "D" rings for flag attachment.

**DWAYER WIND METER**

This hand-held, pocket-size meter has two scales for maximum readability and accuracy. For low 2-10 m.p.h. readings it is held at eye level with the back of the instrument to the wind. For higher 4-60 m.p.h. readings the finger is held over the hole in the top. The position of the white ball in the tube indicates wind speed within ½ m.p.h. accuracy on the low scale and 3 m.p.h. on the high scale. The meter is precision die-cast of tough, crystal clear plastic for practically unlimited service life. It comes in a waterproof plastic case with maintenance kit and instructions.
H. 2048. Manufactured by Dwyer Instruments, Inc.
£5.80
Postage 20p.

**ALTIMASTER II**

From SNYDER ENTERPRISES USA with a Swiss made mechanism. This altimeter is still the most popular lightweight instrument in the world. It is rugged and admirably suited to parachuting and hang gliding. The face reads to 12000' with 100' index marks.
£55
Postage 40p.
Wrist Mount £2.95
SUPER SCORPION

A worthy successor to the existing Scorpion, this is the machine for the serious cross-country and competition flyer. The 120° nose angle and low twist values of the wing make the Super scorpion a highly efficient glider.

Incredible min sink performance coupled with an ability to flat 360 in very tight spaces, make the Super scorpion the ultimate thermal eater.

Pitch is light but positive. A new aerofoil section allows extended glides at high speed - ideal for getting out of sink or hopping from thermal to thermal.

Super scorpion is equipped with two small tip struts. These struts allow the sail to ride as high as it likes when flying at low speeds, but ensure that at high speeds or radical attitudes the keel always has a higher angle of attack than the tips, thus providing quick dive recovery.

because the removal of deflexors, bottle screws and cables also means removal of the sleeveing at the attachment points. Also, Super scorpion is lighter than its older brother because the short keel pocket is less cumbersome than the fin, full pocket and related hardware.

No wing wires and bottle screws means you don’t have to be continually tweaking the cables to keep in tune. It’s all in the sail, fully tuned and permanently tuned. No wing wires means there’s less to go wrong, and the removal of all that clutter from the leading edge pays huge dividends in drag reduction.

The variety of components is also reflected in the price of the machine. A supership at a reasonable price is now a reality.

<table>
<thead>
<tr>
<th>Aspect ratio</th>
<th>Nose angle</th>
<th>Wing packed</th>
<th>Knockdown length</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5.6</td>
<td>120°</td>
<td>12'3&quot; (3.75m)</td>
<td>150ft² (13.6m²)</td>
</tr>
<tr>
<td>B</td>
<td>5.6</td>
<td>120°</td>
<td>13'3&quot; (4.05m)</td>
<td>173ft² (16m²)</td>
</tr>
<tr>
<td>C</td>
<td>5.7</td>
<td>120°</td>
<td>14'3&quot; (4.35m)</td>
<td>198ft² (18.4m²)</td>
</tr>
</tbody>
</table>

Strength rating: 1200lbs (545kg) 27'10" (8.5m) 10’0” (571kg) 30’7” (9.35m) 8’6” (555kg) 33’6” (10.2m)

Congratulations to Graham Slater, Robert Bailey and Bob Calvert who were placed first, third and sixth respectively in Super Scorpiions.

In a competition that promised to be the most important hang gliding event ever held in the United States - a Hiway super scorpion continued to succeed without a hint of drama that Hiway super scorpions continue to be the best in handling and performance - it’s got to be Hiway.
8 Council Matters
9 Volmer Jensen — “Genius” by David Cook
11 Chairman’s letter
12 Power Page
13 Hang Glider Photography by Alan James
14 The George Worthington Column
15 Information
16 Airmail
17 Keep It Safe!
18 Small Ads
20 At the Royal Aero Club
Council Matters

The Treasurer's report showed that there had been no need to use the £2,000 reserved from Association funds towards the 1978 International Competitions Programme. Council welcomed the release of this £2,000 back into the Association general funds as a result of the very successful financial result of the 1978 Competitions Programme.

Council reaffirmed that the BHGA would not promote, sell or allow to be advertised in WINGS! a Site Guide containing material not provided for general release by Clubs. In addition Council would listen to any proposals by Clubs or individuals, particularly Barrie Annette, for the production of a guide so that if they were in line with what the Clubs wanted Council could endorse them.

The Welsh Office had agreed to an informal hearing before taking further action over the proposed byelaws banning hang gliding at Mynydd Maen Common, Gwent. This was in response to the large number of objections that they had received. It was agreed that the BHGA in this particular case, should in principle pay the legal costs. In the absence of a budget it was agreed to allocate up to £200. The Welsh Federation should be asked to establish budget and submit it to Council.

The Bedfordshire County Council had given the Dunstable Club two weeks to sign a formal agreement to fly at Dunstable (under the byelaw that permits authorised hang gliding) or to stop their activities. The agreement was totally unacceptable as it contained conditions that would make practical, safe flying impossible and totally ignoring the fact that flying activities were controlled by Air Law. The Club had decided that they could not sign the agreement as it stood and asked for support in seeking a new and workable one to which Council agreed.

Council endorsed the expenditure of £150 for the installation of an alarm system (provided by Mike Kerr, an Avon Club member) to protect the Taunton Office against intruders.

Several applications had been received in response to the notice in WINGS! advising the intention to recruit a Development Officer. Council set up a panel to handle recruitment. Members appointed to the panel were Reggie Spooner, Derek Evans, Brian Milton, and Chris Corston. The panels recommendations were to be submitted to Council for a final decision.

Council agreed the following four points.

1. To allow BHGA Members to fly at Rhossili without charge and to allow the Association to inform them of the arrangement.
2. To retain stewardship of the site and be responsible for its control as in the past.
3. To maintain the Clubs third party liability policy, as required under an agreement with the National Trust, for the whole of the year.
4. To sign the agreement with the Trust so that their requirement for agreements to be between local agents and local clubs is complied with.

The offer was without prejudice to future offers or agreements concerning the payment of site rents to the Club or any other. This was a special case and because of the circumstances the offer had been made before Council had consulted Clubs or made any policy decisions about the financing of National sites. Rhossili had been considered a special case because amongst other reasons flyers were attracted from all over the country and abroad. There were only about 13 members in the S.W. Wales Club and the rent was totally beyond their ability to pay.

Ashley Doubtfire reported that the Powered Hang Gliding Club had been formed over the weekend of 28/29th October. He had been appointed to liaise between the Club and the BHGA Council. Club Chairman was Gary Bowell and Secretary Johnny Seccombe. Council decided that Regulations formulated by the Club for inclusion within the Code of Practice for Powered H.G. should be ratified by the BHGA Council. Council endorsed the definition of a powered hang glider as submitted by Brian Milton in his report to Council on the 7th May 1978 with clarification on point 6 which should read "The maximum power loading of a powered hang glider shall be 1 horse power per 15 lb (all up weight)."

The Welsh Hang Gliding Centre, Crickhowell, was removed from the BHGA Schools Register. This was as a result of a visit by the Training Officer when it was found that some of the Schools Registration requirements were not being observed.
Volmer Jensen — "Genius"
by David Cook

Volmer Jensen flies the Powered VJ-24.

At the invitation of Volmer Jensen I recently visited Glendale, California. It was a natural follow up really after having successfully developed a powered system for the VJ-23 and then flown it across the English Channel.

Mr. Jensen, I think, is quite remarkable. At 68 years of age he is still as fit as myself (I'm 30 years younger) and he regularly flies all his hang gliders, both soaring and powered. I was shown the VJ-21, VJ-22, VJ-23, VJ-24 and VJ-25. Volmer, I learned, is a genius at making things. For example, he made the model starship Enterprise for the T.V. series Star Trek. I admire any person who builds, designs and flies his own aircraft; Volmer seems to build everything from speedboats, airplanes to propellers — you name it, he builds it.

I was introduced to many of the current and past builders/designers/fliers of hang gliders and aeroplanes. Ivor Culver was one person who backs up Volmer, technically. He is a retired Aeronautical Engineer from the famed team at Lockheed Aircraft. Volmer and Ivor were telling me all about their hang gliding in the 1920's. Between them they are enough to make anyone feel inadequate...

You may be interested to know that N.A.S.A. are currently working on a VJ-24 which is to have its wings covered with solar cells. The cells are to produce electricity to power an electric motor for the destined sun powered hang glider. I was told that the cells alone would amount to $50,000. I sure would like to work on that one. McCulloch power is super but so noisy.

One evening I was invited to talk to the Southern Californian H.G. Association at an auditorium. The very enthusiastic audience had many questions concerning the Channel flight of mine. Later I described the hang gliding scene in Britain and pilots were very interested in our B.H.G.A. League. I told them that not only were the best hang gliders produced in Britain but we also had the best pilots. The fruits of our competitive league would be seen at the America's Challenge Meet in Tennessee.

The flying scene in California is very much dispersed compared to Britain. Nearly all the original site names familiar to myself, like 'Escape Country' have been built on. The influx of people to this State is so great that very few areas around Los Angeles are usable for hang gliding. Sylmar is still there but the small landing area below this big site is full of hazards. To fly Volmer's powered hang gliders we all travelled for ½ hours to a dry river bed. This site was surrounded by mountains and orange groves. It was very pleasant to fly in shirt sleeves at around 100°F. The heat seemed to be there however high one went. Characteristics of the Jensen 23 and my own were quite different but we thought these were due to my machine having a finer pitched propeller. They were all surprised that my 23 could take-off in no wind, i.e. zero zero conditions, and climb to 75ft. within 100 yards from the start of my run. Because of a particularly strong heat wave (well over 100°F) whilst I was visiting, there appeared not to be very much hang gliding activity. This was in September and in dry heat like that it is probably much wiser to stay at the coast or near an air conditioner. One flier had soared inland on a thermal only a few days before I arrived. Helicopters searched for him for 3 days with no success. It is said that without water in the desert one has two days only. Poor fellow.

Many of the 'treats' lined up for me by Volmer and John Underwood (the famous aviation author) are not really relevant to hang gliding so I feel Wings! shouldn't be filled with these events. However, I feel I must just say that the VJ-22 is a small two seat amphibian and after flying it off a runway we retraced the wheels, landed in the water at Catalina Island, lowered the wheels and taxied up onto the shore! Surely the most practical airplane in the world.

The U.S.A. must be, geographically, the most beautiful country. I wish everyone could visit California — the wine, the sunshine, the palm trees, the humming birds — it's really very lovely. I was treated like a lost son. Californians must be amongst the most friendly people on earth.

As far as hang gliding goes, though, I do feel Britain has more in variation to offer pilots and any way our weather alone is a challenge in itself.

*Many thanks to the British Team who upheld my patriotism and faith!"
LASER
A full bodied intermediate/advance glider for the pilot with ambitions, whether it be competition, cross country, thermaling or just plain ridge soaring “Laser” fits the bill.

Laser has taken us a full year to develop and this extensive work has produced at last an intermediate glider with good sink rate glide angle and penetration so that when the winds freshen you won’t automatically be grounded. “Laser” slices through turbulence with its cambered fully floating battened sail (no wing wires) and its strong easy to rig airframe allows you the maximum time possible in the air. Beam on to a Laser and light up the sky. Laser is available in two versions, a full length glider and a breakdown version folding to around 3 mtrs, that’s just 10 ft. for storage and transportation. As with all Wasp gliders Laser comes as standard with a fully anodised airframe.

<table>
<thead>
<tr>
<th>Leading Edge</th>
<th>20 ft.</th>
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<tr>
<td>Keel</td>
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<tr>
<td>Area</td>
<td>190 sq. ft.</td>
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<td></td>
<td>17.65 sq. mtrs</td>
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<td>Aspect Ratio</td>
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<td>Span</td>
<td>34’6”</td>
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<tr>
<td>Sail Billow</td>
<td>0°</td>
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</table>

Waspair Limited
Restmor Way, Hackbridge Road,
Telephone: 01 - 647 4343
Telex: 943763 Crocom.G.Waspair

LASER, THE DIRECT PATH TO PERFORMANCE
Chairman’s Letter

Our fourth Annual General Meeting commencing at 1400 hours on Saturday, 31st March, 1979, at the University of Warwick will be even more important than the historic meeting on 8 December, 1974 when the BHGA was born.

That is because hang gliding within the United Kingdom has grown to become part of our Social Structure, loved by many, hated by a few, often raising emotional rather than logical issues, but above all, because it has come to be a large and enriching part of many people’s lives.

There have been greater changes in hang gliding over the last year, than in the previous six years. There will be great changes still during this next year and I believe that it is for our Membership to decide which way hang gliding is to go.

At this moment the Constitution vests Government, Direction and Control of hang gliding in its Chairman and Council. That Council is called to account only once a year at our Annual General Meeting. In that short A.G.M. Council cannot attempt to comment on all the suggestions from its Members - and is almost free for a whole year to go its own way - subject only to censure at the next A.G.M. I know you elect it - I know you trust it, but ...

I believe Council needs your Policy direction, before the event, and to that end this year's Annual General Meeting has been organized to give a full afternoon and morning for debate, so that ideas can be exchanged - the views of the membership properly aired - and consensus established - so that formal resolutions may be placed and voted upon to give policy direction to Council for the coming year.

Correspondence and discussion with Members and Club Chairman during the last year reveals many areas which concern us all. These I can only note in this short letter, the main object of which is to draw them to your attention - have you add your own, debate them within your Club - put forward formal resolutions before the A.G.M. So that these can be published in WINGS! in February and again in March - to be well-aired, so that our Membership can express its views and direct the Council it has elected to achieve the rightful place that they want hang gliding to enjoy.

Some of the points that we must think on are -

Sites

There is a threat to our sites as a result of others taking the initiative and threatening to close them to us. Are we being active enough in that area? - who is going to volunteer to do the work? Looking ahead a few years, shall we always be tied to hill sites?

A National Site

Should we acquire a National Site and develop it? Need it cost much - what assistance might be given to us?

Site Fees

Many sites have to be paid for. Is there a case for the National subscription entitling one to fly from any site. What might be the effect on site owners if it were known that they were funded nationally?

Air Space

There is much greater threat to air space than is generally realized and it is important that we join with the British Gliding Association and others in the protection of that air space. The initiative, time and effort is needed and we must find people who both understand the problem and are willing to work on it.

Commercialisation of Hang Gliding

This last year we have seen a tremendous growth in our Income from sponsorship. This has had tremendous and beneficial effects. Properly informed debate is required so that all implications of this are understood by membership, so that they may decide whether the trend is to be developed, held at its present level, or to be reversed.

A Professional or Amateur Sport

At the moment hang gliding is basically an amateur sport. Many people do earn their livelihood as manufacturers, instructors or in other ways connected with hang gliding. Fundamental issues are raised. Does our Membership want an Amateur Sport, a Professional Sport, or a mixture of both. Hang gliding will be an Olympic Sport. Amateur and Professional hang gliding are not necessarily mutually exclusive, but the implications of each must be understood - and we shall have to decide during this next year.

Accident Prevention

Ten people have died this last year. Just ask yourself WHY?

Role of our Member Clubs

Our Member Clubs represent the great majority of our members. They are formed organizations, generally geographic in their organization, in closer touch with their membership, than can be the Council. Is there a case for government and direction of the hang gliding affairs to be vested in the Member Clubs - they formally directing the policy which then becomes the responsibility of Council to execute. What should the responsibilities of those clubs be for Site Control, training of ab initio and other pilots.

The Future

The foregoing will raise more questions than it answers - and is meant so to do. Hang gliding is of your future - that of your children. It is for you to debate it, guide it and control it. You have an opportunity that will never occur again, at the time of greatest change, to stamp your mark on hang gliding, to have it as you would have it.

Debate within your Clubs, form your Resolutions, put them forward to WINGS! urgently, so that others may consider and conclude - and above all, come to Warwick on 31st March, 1979. Momentous decisions will be taken on 1st April, 1979. (The Royal Air Force was born on that day in 1918 - it has not done too badly - let us set the same standards).

American Cup T-Shirts

In Tennessee recently our flyers won the first annual American Cup against teams from the U.S.A., Canada and Japan.

We all made it possible and can be proud of the team effort that showed hang gliding expertise in the U.K. leads the world.

To mark the event we have produced a commemorative T-shirt.

The design, in four colours, is by Bob England, one of the British team. The shirts are of high grade cotton-based material from 'DEECEE', one of the U.K.'s leading suppliers.

SEND £2.90 (inc. p & p.) AT ONCE TO AVOID DISAPPOINTMENT AS STOCKS ARE LIMITED. TO: BHGA T-shirts, 167A Cheddon Rd., Taunton, Somerset. State size required - 30", 32", 34" (S), 36" (M), 38-40" (L), 42-44" (EL).

Don't forget to give your address. Allow up to 3 weeks for delivery. Make cheques/ P.O.s payable to B.H.G.A.
The Power Page

The British Powered Hang Gliding Club are introducing a registration scheme for powered hang glider combinations flown by their members in order to encourage safety through knowledge of the performance of different types of combinations and to lay down standards incorporating known safety features as they appear in the present state of the art. Registration documents will be circulated to all members and they are requested to return them to the Secretary who will also handle any queries that will arise.

The Criteria for registration have been adopted by the BHGA council on 10th December 1978.

BRITISH POWERED HANG GLIDING CLUB
Criteria for Registration of a Powered Hang Glider

The glider must fulfill all the requirements of the following definition of a powered hang glider:

D1 A hang glider is a heavier-than-air fixed-wing glider capable of being carried, foot-launched and landed by the energy and use of the pilot's legs.

D2 A powered hang glider (PHG) is a hang glider, as defined in 1 above, fitted with one or two motors.

D3 The maximum weight of a powered hang glider shall not exceed 70 kg. without pilot, but including the motor(s), fuel and instruments.

D4 The maximum number of persons to be carried by a powered hang glider shall be two.

D5 The maximum amount of fuel to be carried by a powered hang glider shall be three imperial gallons.

D6 The maximum power loading of a powered hang glider shall be 1 HP for each 15 lbs.

D7 The design of the powered hang glider shall be such that, if the motor is in operation upon take-off or landing, there shall be an additional hazard caused to the operator(s) by the running motor.

D8 The design of the powered hang glider shall be such that it is possible to foot-launch and land the glider by the energy and use of the pilot's legs (as in 1 above) without the motor running.

The glider must have the following technical features:

ENGINE
T1 The throttle shall be self-closing and there shall be no auxiliary throttle stop that gives any fixed lower opening to the throttle other than the tick-over adjuster on the carburettor.

T2 The switch for start or cut-out shall be operable in flight. (It is preferable that the switch be operable without letting go of the A-frame especially if closing the throttle does not completely stop thrust from the engine being produced).

T3 The glider must be isolated from the engine to stop the transfer of excessive vibration (e.g. with rubber mounts).

T4 The complete mounting system must be protected against all conceivable failure modes (e.g. by fitting keep-wires in case metal/elastic bands break).

T5 The engine shall be effectively silenced (standards to be set).

GLIDER (+ ENGINE)
T6 The glider (with or without engine) must be built and tested to the standards laid down in the BHGA Airworthiness requirements.

THE REGISTRATION CRITERIA OF THE BRITISH POWERED HANG GLIDING CLUB DO NOT IN THEMSELVES CONSTITUTE THE EXCLUSIVE REQUIREMENTS FOR AN AIRWORTHY POWERED HANG GLIDER.

AMENDMENT

There was a typesetting omission in the "Nationwide" Crash article on page 12 of the November issue. The last paragraph of the first column of Len Gabriels' report should read:

This represented 6.7 and 5 g's respectively for the 14 stone recommended max. pilot weight for this model. This is greater than the BHGA requirements. The glider stalled badly, possibly due to severe gusting, and the engine should have been cut at that point or before, etc.

I regret the error which made a nonsense of Len's item.

ED.

POWER INCIDENT AND ACCIDENT REPORTS.

April 1978. Olympus/Soarmaster Powerpack: Take-off aborted but power not out and kite ran on ahead. Pilot let go of airframe and right foot entered the propeller area at maximum harness extension when A Frame is released use a restraint rope for take off and release it when airborne.

INJURIES. Two toes amputated.

May 1978. Wasp Falcon 4/Soarmaster Powerpack: Dived into the ground under full power. This accident is the subject of an A.I.B. investigation. It appears that the kite had been home modified to accommodate the power unit.

INJURIES. Fatal.

September 1978. Canadian Birdman/Soarmaster Powerpack: The pilot was flying in unsuitable conditions, lost control and dived into the ground under power.

INJURIES. Broken arm and nose.

November 1978. Skyhook Safari/Skyhook power unit: This accident is the subject of an A.I.B. investigation. The kite was being flown at a low airspeed in turbulent sink conditions. It appeared to buckle and broke up inverted under full power.

INJURIES. Broken shoulder.

November 1978. Moonraker 78/Soarmaster Powerpack: The powerpack shed a propeller blade in flight under power. In spite of severe vibration the only structural damage was a broken drive shaft. The power was out and the kite landed safely.

1. DON'T VIOLATE BASIC FLIGHT PRINCIPLES. THINK AIRMANSHIP.

2. IF IN DOUBT CUT POWER. DON'T FLY WITH MIXED THROTTLES.

3. USE YOUR POWER TO FLY AT A SAFE AIRSPEED.

All accidents and incidents should be reported to BPIGC Safety Officer: John Long, "Emlyn's", Hambridge, Langport, Somerset, as well as the other appropriate authorities. All publication of accidents will be anonymous.

REMEMBER: AN INCIDENT MIGHT BE AN ACCIDENT NEXT TIME SO TELL US ABOUT IT.
Hang Glider Photography

by Alan James

If you look at a few copies of WINGS! you’ll find pictures taken by professional photographers, pilots, pilots’ mates and spectators. You’ll find great shots, shots, poor shots, and the rest! If some of your pictures fall into either of the last two categories, then I hope this article will help you to record your flying with good pictures rather than just a log-book. There’s nothing as disappointing as seeing your mate take off in his multi-coloured Super Scorpion into a blazing sunset, grabbing your Instamatic, only to get overexposed and washed out colours with a little black smudge in the middle.

Let’s look at the types of camera you’re likely to use. A lot of you will own an Instamatic or something like one. There’s no real reason why you can’t take reasonable pictures. Just don’t expect to be able to shoot the bloke in the Scorpion/Gryphon/Moonraker/Vortex (sorry if I left anyone out!) as he cranks up 2 grand over the Dyke. You can happily take landings, take-offs, in-flight shots (keep one in your pocket) and wider angle pix of soarers.

Some of you will have a 35mm ‘compact’ type. You certainly stand a better chance of getting a better quality picture (technically that is), insofar as it should be better exposed (most of them are automatic), sharper, and will give you a better quality negative to work from. But their main disadvantage is that they have fixed lenses, and so you are really stuck with the same picture limitations as an Instamatic.

For those of you with a 35mm SLR (single lens reflex) camera, you stand the best chance of getting good shots. The majority of serious amateurs have one camera body and a standard lens (50mm) a wide angle (probably 28mm), a telephoto (135 or 200mm). The scope you have with this equipment is considerable. The wide angle is best used for take-offs — if you shoot from the front be careful to get out of the way in good time because the kite will look a lot farther away than it really is through a w/a lens! The standard lens has the same sort of uses, but will be more useful for landings when (hopefully) you’ll be well out of the way. The most useful lens will be the telephoto. It is not, however, the easiest lens to use. Make sure you focus carefully. I know it sounds basic, but I see a lot of unsharp pix by other pros. Use a shutter speed that is not slower than the reciprocal of the focal length of the lens you’re using, e.g., if you’ve got a 200mm, don’t use a shutter speed of less than 1/200th. Follow the kite in the viewfinder smoothly and squeeze off shots gently. A tripod is essential for anything longer than 200mm.

If you’ve just won the pools, or you’re horse came in there are a few luxuries which open up all sorts of possibilities: motor drives (they take a sequence of pics very quickly); or perhaps a mirror lens (this is a very long focal length lens) 500 or 1000 mm, but is very compact — you could fill the frame with a kite from about 100 yds.

All this may sound very expensive, but an SLR with two lenses may cost about £150, and you could pay for the lot with the publication of one pic, which I’ll mention later.

Now for the different kinds of pix you can do, and a guide to the best way to get good results. On the ground, nice effects can be achieved shooting through the wings into the sun, especially if the sail is multi-coloured. Close-ups of kites can be useful reference shots for beginners.

Ground to air pix are the ones most likely to cause disappointment. Cameras with automatic exposure facilities, including SLRs with in-built meters, are easily fooled by pointing into the sky. The golden rule to remember is that almost all meters try to give you an exposure that will reproduce everything as a mid-grey, e.g., if you had three sheets of card — white, grey and black — and shot them all with an auto camera or centering the needle in your SLR viewfinder, you would find the results would all be grey. What you must remember to do is if you point the camera at a predominantly white subject, (e.g., the sky or snow), to open the aperture by about 1 stop or drop the shutter speed (i.e. the film must receive more exposure). The same applies to a very dark subject but is countered less frequently. Try not to shoot near the sun. Apart from the danger to your eyes, unless you own high quality lenses you’ll tend to get flare which will spoil the picture (unless used creatively like last January’s cover!).

Hangglide photography obviously opens up the best creative possibilities, but also introduces all sorts of technical problems. Any bracket that’s built to attach a camera to a kite must primarily be SAFE. It should be fairly light, not too bulky, and must not interfere in any way with the natural flying characteristics of the kite unless fully understood by the pilot. Having securely mounted the camera onto a bracket there comes the question of where to put it. The two most likely places are out on the crossboom pointing back towards the pilot, where a 28mm lens or wider is best; or on the nose, especially with kites like the Gryphon pointing back towards the pilot (wider than a 28mm if possible) or even pointing forwards for air-to-air shots and landing pix. After you’ve mounted the camera, check the focus (on the pilot’s face is best) and set the exposure. You should have taken an exposure reading off the hillside or similar already. Double check for security and you’re almost ready.

The method of shutter release is likely to cause a few problems. Unless you have a motor or winde on the camera, you’re really stuck with one shot per flight, so make it a good one! If you have got a winde, there are several methods of release. Some have electrical sockets, and a wire can be taped along the tubing to the A-frame. Ordinary cable releases are too short but air releases are available, although a little tricky to use in flight. One of the most common problems with shots from the wing towards the pilot is that, if it’s sunny, the ground below is in sunlight while the pilot is in the shadow of the sail, unless he’s doing wingovers! To counteract this, get hold of a gelatin neutral density filter and cut it in half. Then tape it behind a UV or skylight filter over the lens, but make sure it is at the right angle to cut out some light from the ground. This should achieve a better balance of exposure.

On the subject of filters, nice effects can be obtained in black and white by using an orange or red filter to accentuate the clouds and deepen the tone of the sky. In colour, a polarising filter will darken the sky background but only successfully at an angle of 90° from the sun. ‘Starburst’ filters can make interesting patterns shooting into the sun.

In general, fairly fast, i.e. sensitive, films will be the most useful. For B & W, HP5, Tri-X, or FP4; colour negatives, Kodak 400, Fuji 400 or Kodacolor II 100 asa on bright days; for colour transparencies, Ektachrome 400, 200, 64, or Kodachrome 64 in decreasing order of sensitivity.

If you have available to you some printing equipment (or a friend with a darkroom) some very creative effects can be done by printing skies into B & W shots, putting two transparencies together, changing colours etc.

Making cine films is really more complicated than stills so I won’t go into too much detail. When ‘panning’ a shot you’ll find it better to use a speed of 24 frames/sec. rather than the usual 18 — this will stop the jerky effect you may have experienced previously. Always use a tripod, and try to overide the auto exposure to gain 1 stop more exposure for reasons already explained.

If you happen to get a particularly good shot that you think you might like to see published (other than in WINGS!), be very careful. There are a lot of people in the photographic and advertising business who would like to use a nice sharp dramatic hang gliding shot for something or other, and the chances are you’ll get nothing like what the pic is really worth in payment. If there are any pilot/advertising agents reading this, I’m sorry to sound cynical, but I’ve experienced this sort of thing often enough.

I hope this will help to avoid some of the disappointments you may have had, and encourage more WINGS! readers to try their hand at getting some really good pictures.
The George Worthington Column

What is the longest cross-country flight for a British female hang glider pilot? Has a female pilot ever made a cross-country flight? Do the female pilots of Great Britain know that if one of them made a 10 mile cross-country flight, or a 1000 foot altitude gain, or an out and return flight of 5 miles each way, and authenticated these flights, that she could claim THREE OFFICIAL WORLD RECORDS. What an opportunity! The Guinness Book of World Records! A Diploma of Record from the World aviation body, the Federation Aéronautique Internationale. There are, to my knowledge, no known claims to world record hang glider flights by female pilots, as of this date. This is regrettable. We, in the U.S. have a number of excellent female pilots and not a single one has made a serious attempt so far as I am aware, at obtaining a coveted World Record in hang gliding. It would seem, now that the British men have so convincingly defeated the best pilots in America at the American Cup, that the British female pilot would want to start the ball rolling, in sort of an individual world competition, by grabbing some World Records. It would cost practically nothing (especially compared to the costs involved in the American Cup). It would give British women some important recognition. It

would help the cause of women hang glider pilots everywhere. It would begin to halt the 100% coverage of "men only" in the hang gliding publications of the world.

The numerical figures of 10 miles, 1000 feet, etc. quoted above were just picked out of the air. Since there are no women records to date it would logically follow that any properly verified distance or altitude, no matter how small would qualify. And remember this — once a record is accepted by the F.A.I., it is never taken away from you. It might subsequently be exceeded by another pilot, but it will forever be a World Record, if not the current World Record, when and if it is later exceeded.

And now let me tell you about one particular woman pilot who I happen to know personally. She is Page Pfeiffer, a 22 year old blonde San Diego hang glider pilot.

Page has been flying hang gliders for about two years. She is married to a very ambitious and experienced pilot who this year (Summer of '78) flew flights of 70, 75, and 81 miles at Cerro Gordo. It looks to me like the husband Rich is the "driving force" which got Page into the sport. When they are both at Torrey Pines, Rich is always in the air, and often the only pilot who will fly the cliff on certain days when the lift is very, very marginal. Page, on the other hand, flies far less and far less aggressively. There may be a reason for this. Page has twice (that I know of) made hard landings which have thrown her arm painfully out of socket. Each time, it has taken Page a month or so to recover.

On July 30, 1978 Page took off from Cerro Gordo at about 2:40 pm in a U.P. Firefly. By the time she had landed, about 2 1/2 hours later, she had covered a straight line distance of 51 miles. I took off only 20 or 30 minutes earlier than Page, and the very best I could do that day at Cerro Gordo was 25 miles.

Unfortunately, Page did not own, borrow, or carry a barograph with her on her historic flight. And because of that fact (no barograph), her flight could not qualify for an official world record.

Here, in her own words are some of the comments Page made to me after her flight:

"The wind at take off, about 240, was blowing up mountain at about 10 to 12 mph. I had noticed that two of the other pilots, who had launched 20 to 30 minutes ahead of me were really having a tough time. They were 5 miles out in front of take off, over the desert, and very low. So I evaluated my chances of a long flight to be very slim."

"I took off and my pessimism regarding the weak lift began coming true. I couldn’t find any thermal worth turning in, so I had to continue straight out toward the valley as the others had done. I found myself a bare 700 feet above the Valley floor after losing about 3200 feet in a 4 mile straight glide. It appeared certain that I’d have to land at Keeler (3500 feet) and about 2 miles straight in front of me. But suddenly I got a nice surprise. The vário was registering 200 feet/min. I began circling and gained about 1000 feet in 10 minutes. The thermal became stronger and I was climbing at 500 ft/min. The excitement mounted as I climbed 9000, then 10,000 and finally to 11,000 feet. That one thermal had given me an altitude gain of 6000 feet. I was getting cold and the lift levelled off to include patches of sink. So I turned North up the mountain range. The air for the next 20 miles contained a lot of zero sink and consequently I did not lose the altitude that would normally be expected. At the end of those 20 miles I still had about 8000 feet. I found another thermal and climbed to 14,500. This time I really got cold. In fact I felt forced to leave the thermal and head North again because I was so uncomfortable from the cold.

I had on ski gloves and a ski jacket but they weren't enough in the air which was below freezing at 14,500 feet. Another 10 mile glide found me just South of Mazurka at 10,000. I covered 30 miles. It was then that I bumped into my third good thermal, and I began climbing. Again I started freezing and at 14,000 I again headed out of the thermal and flew North. It was about that time that I had my worst fear of the flight. The control bar was suddenly wrenched out of my hands by extreme turbulence.

I went weightless. I was tossed up near the front keel and the front flying wires. I grabbed the wires and worked my way back to the control bar. I had flown out of the severe turbulence and was flying normally again. I didn’t encounter any turbulence that severe again for the remainder of the flight.

"As I passed the huge bulk of a mountain that we call Mazurka, I noticed that the lift conditions seemed to be deteriorating. I was no longer encountering thermals or zero sink. I was losing altitude fast. Ahead of me to the North lay the 10 mile gap in the mountains known as Westgard Pass. I felt that to continue North and try to cross this pass would end in my landing about 3 miles from any habitation. The prospect of a 3 mile walk in the desert was unnerving. So I headed West toward a town and the highway. Upon landing I secured 2 witnesses who had seen me land. They signed a paper to that effect. I knew I had an unofficial World Distance Record.

This flight was about the 7th or 8th flight that Page had made from Cerro Gordo. Next year she will have a barograph and will try again.

Now I want to again encourage or challenge the women of Great Britain to go for an official World Record. If you do it soon enough, you have a super chance. But be sure to read and follow the Code and carry a barograph.
MERE '78 TROPHIES
Will the following firms please contact the Editor so that the
prizes can be delivered to them:
M.Stainer, M.Sylvester,
D.Thomas, A.Williams,
M.Gregory,

"Mainair" apologises.
We would like to apologise to those customers who suffered a
four week delay recently because we were unable to supply
materials for Flexi-form glider kits. The delay was due to material
rejection at the manufacturers but we appreciate the frustration
cause by delivery dates given and then broken.
John Hudson,
Mainair Sports

STEYNING BOWL
Mr. Langmead, the owner,
has made it known that this is
closed for hang gliding as from
1st January 1979. If a basis for
agreement to re-open the site
can be found we will notify
you in this column.

THANKS
Thanks to the members who phoned/wrote/called to offer help.
I asked for in last WINGS! Will the lady who phoned me from
Cromer (I think) offering help (I think?) please try again
on Tamworth 65854. The
Robophone in the office "scrambled" her message!

WING TIP by Bob Calvert
Giders with folding cross
booms (to derig, that is) often
suffer from the crossboom getting
scratched. So, if you slide
off the crossbooms, put the
battens in the crossbooms and
roll them into the sail the
problem's solved.

S.E. WALES CLUB
The new Secretary of the
South East Wales Hang Gliding
Club is Martin Hann, 6 Church
Hill Close, Llandybie, Cowbridge,
South Glamorgan.
Telephone: Cowbridge 2953 or
Aberdare 872515.

MEMBERSHIP RENEWALS
Membership numbers 9181 to
9552 are due for renewal on 1st

Kernow Club
John Westcott has moved
from the area and the Club
Chairman is now David Bazley,
Boslashath Manor Farm, St.
Wenn, Bodmin, Cornwall. Tel:
St. Columb 483. Secretary is
Roger Full, St. Dominick Cottage,
Norway Lane, St. Ives, Corn-
wall. Tel. (day) St. Ives 7651.

APOLOGY
The photo on page 26 of
November WINGS! was wrongly
attributed. The photographer was NOEL MANCHEE.

First Delta Silver
"The world's first Silver C
badge to be earned in a hang
glider has been awarded by the
FAI to Ernst Reichhoff of
Salzburg, Austria, according to
Flugsportzeitung, which calls it a
Delta Silver," says an item in
Salplanke and Gliding.
"The pilot made his distance
and altitude legs on April 2
(1978) across mountainous
country on a good thermal day.
Starting at 13.45 from the
Wildkogel mountain station near
Neukirchen by the Großven-
diger, 2100m asl, with the
intention of making a local
flight, he sank to 1800m then
captured strong cumulus lift to
3100m, then at 3350m decided
to go off on distance. He over-
fl ew Zell am See, 38km from
the start, but then began to
feel cold and limited his climb to
2800m. Finally, "fully frozen
through", he landed beside the
local doctor's house, having
covered 55km in 2 1/2 hrs. It was
some time after this that the
opportunity came to fly the
five hours' duration leg. Rich-
holt flew an American type
Class 2 Seagull with a gliding
angle of 1 in 8, in which the
pilot lies horizontally on his
stomach (sic). He carried a
variometer, altimeter and ASL."

when only the very best is good enough...

VECTOR


*27 miles G. Snape (NSHG) Sept. '78. 1st L/D Knockout, A. Williams, Mere, Aug. '78.

FLEXI-FORM SKYSAILS
UK
FLEXI-FORM SKYSAILS. Unit 24, Nassau Mill, Cawdor St., Patricroft, Manchester. 061-707 1389.
Mainair Sports, Rochdale 47728, Midlands, Malcolm Hawskworth, Blackshaw 231.
Scotland, John McConnochie, 066-76 2414. S. W., Tony Williams, Bristol 35449
Cumbrian, Northern and Yorkshire Hang Gliding Centres.


SPECIALIST SAILMAKERS AND HANG GLIDER MANUFACTURERS.
Airmail

LAST LAUGH

Dear Garth,

The Americans got the last laugh on us. The picture of the British flag upside down on the front cover of last WINGS! speaks for itself!  

Peter Day

Richard Kemward took the photo: Graham Slater flew the kite: who flew the flag we don’t know. We’ll try to organise things better next year! ED.

EDITORSHIP

In reply to Tommy Thomson’s letter in last WINGS! I would like to point out that Council appointed Garth as Editor giving him total responsibility for content and layout. It might also be of interest to you to know that Garth was the only member to express interest in the job. If T.T. was that concerned about editorial freedom and independence he could have offered to do the job, or could have written to see who had applied! At least we still have a magazine in which he can express his views.

Chris Corston, BHGA Secretary

TONY FUEL’S CRASH

Dear Editor,

Tony Fuel’s report on his own accident (and I hope he recovers fully and returns to flying soon) makes two points which, if we all need them, should prevent future similar incidents. These are the necessity of proper pre-flight checks every time and the avoidance of distractions.

He makes another point however, which is more debatable, regarding T/O methods, and it seems he’s about to abandon the method he’s used successfully for three years, not because it doesn’t work but because it doesn’t highlight the primary error of failure to check the harness. You wouldn’t fly wingovers in turbulence to check that the wing-nuts were tight Tony, now would you? A take-off is a take-off; it’s not a substitute for a pre-flight check.

I know of no way to guarantee that pilots check harness and glider properly before T/O – I wish I did, for I’ve failed myself more than once, though with much less serious consequences than Tony’s. Keeping flying and alcohol in that order must help though. Since my last second bent upright, I won’t have so much as a half-pint before flying, though my attitude to driving is rather different. Even as little as one pint, even for people who can handle the stuff, can make you casual; casualty before and during take-off is a killer.

Ian Trotter, Edinburgh

I have received a number of letters from fliers of all capabilities criticising (roughly equally) Ian Trotter’s loose straps type of take-off and Tony Fuel’s negligence in not carrying out a full pre-flight check. Space restrictions have prevented me from giving more space to the pros and cons of the Trotter method in this issue, but it will be covered in the next issue.

ED.

TOW PLANE

I would like to add my 2¢ (American) to the excellent article on Lee Waves contained in the October 78 issue of WINGS!

The occurrence of lee waves in nature is rather frequent. Flight by a hang glider in a lee wave is extremely rare.

Sailplanes regularly fly lee waves in certain parts of the world, 99.9% of these sailplanes, in my judgment, enter the wave while on tow and release in the wave. The other 0.1% manage, through skill and luck, to use thermal and other lift sources to enter the wave. Sailplanes have L/D’s of about 30 to about 50, as compared to the hang glider L/D which is about 8 or 9. Because of this fact, sailplanes have a “range” of nearly 7 to 1 greater than hang gliders and consequently can reach areas of lift to a far, far greater degree.

If sailplanes, with their far greater degree of power, speed, and range, manage only very infrequently to encounter wave lift, without being purposely towed up into it, then you can imagine the chances available to the hang glider pilot. He doesn’t even have the advantage, which all sailplanes have, of being towed up 2 or 3 thousand feet above the take off area and released in the most promising area of lift locally available.

So, hang glider pilots are disadvantaged in the respects mentioned here — but the disadvantage could be greatly reduced if hang glider pilots had one item which is available to the sailplane ... a tow plane, specially designed and built for towing hang gliders.

This is a favourite cause of mine which I have been espousing for some time (3 years). It would be extremely practical and feasible to build such a tow plane. The capability exists. All that is lacking is the necessary degree of vision, desire and money.

Larry Haig, an American designer, has stated that the following predictions can be made as to the performance and physical characteristics required:

- Static thrust required: 150lb to 200lb.
- Stall speed: 16 - 20 mph.
- Tow speed: 25 - 35 mph.
- Wing loading: 1.5 - 1.8lb/ft².
- Wing area: 200 - 250 ft².
- Empty weight: 130 - 150lb.
- Gross weight: 325 - 375lb.

If hang gliding had a proper tow plane, the possibility of flying longer, further and higher, in a far greater (almost unlimited) area of the earth’s land surfaces, would be increased by a phenomenal degree. The requirement for hills or mountains from which to launch would be eliminated and would become an “option.”

Some pilots will argue that just adding an engine to a hang glider will create the same effect. I am not “anti-engine”, per se. But, there is a vast difference between (1) being towed up 2 or 3 thousand feet and then “soaring” (2) being delivered to the same area by your own glider — mounted engine-driven propeller. When a regallo is to be towed, only a heated up control bar would have to be added to most kites. The overwhelming majority of hang glider pilots don’t have or seem to want engines on their machines. The ratio is currently about 100 to 2. Also the L/D of an engine driven hang glider suffers significantly when the engine is turned off, as compared with the normal hang glider. The engine and propeller cause extra drag and extra weight and added complexity to a machine already relatively low in soaring ability as compared with sailplanes.

The British have been in the forefront of so many, many aeronautechnical advances. I am hoping that somewhere in Great Britain this “Tow Plane” idea will catch on, and that the British will be the first to build and to prove the worth of a hang glider tow plane.

George Worthington
4028 Camino Calma
San Diego, Calif. 92122
Remember your first days of acquiring the basic skill of physical movement around your loved one. You pushed, pulled, twisted and moved your body about her as she responded to your awkward thumbing movements. Do you recall how she groaned as the two of you ground yourselves a little deeper into the grass on a quiet hillside.

Then slowly, after a little time your thumbings turned to well controlled and deliberate actions together you both became one, united and a part of each other. The undesirable sensation of pleasure then lasted not for seconds, but for minutes and longer, hours as you rotated higher and higher towards the summer clouds above.

Hopefully your early knockings didn’t do too much harm to your loved one, but perhaps, to make sure you had better give her a good looking over; naked as well as clothed, just to make sure she has stood up to your advances. I didn’t mean a quick glance and feel before you jump on her, but a long lasting inspection into every nook and cranny — surely these long dark winter evenings are the ideal time to do so.

We, at the Dunstable School for the Better Things in Life, are exceptionally concerned about your partners. We get a large turnover of ‘loved ones’ in all shapes, sizes and ages and, to be honest, they have proved to be eye openers. The school’s inspection of them is second to none of course, and experience has shown that there are at least 3 main problem areas. Obviously the younger your partner the less time she has had to catch the diseases likely to do harm to her health and welfare and ultimately yours, too. However the greater her maturity (and there are a lot of oldish birds on the market now) the greater the chance of her developing these little nasties.

These 3 problems can be associated with the cancer family of the medical world.

They are
(a) All undetectable until it has developed (and then its too late)
(b) Malignant, i.e. it gets worse in time (a lot worse)
(c) Killers.

So what are these elusive nasty little killers! Well, they’re not new, they are not even rare, on the contrary, as time goes on and the loved ones become older, then the problems are going to become common place and so too the consequences.

As pictures speak a thousand words let them finish this article, written admittedly in a light hearted manner, but I hope you will take it more seriously.

Safety & Hang Gliding — A Re-appraisal

Anyone who flew standards at the start of their flying career is well aware of the startling changes that have occurred, both in flying skills and equipment. I think the time has come for a re-appraisal of attitudes towards the safety aspect of our sport.

With the accent on a good public image, we have been gently steered towards the idea that hang gliding has passed through the phase of irresponsibility to the calmer waters of an acceptable risk sport. So it should be if we are to develop, and statistics from insurance companies and the BHGA would seem to bear this out. This attitude is O.K. for the public and punters in general, but it seems to me that we are losing sight of the fact that hang gliding is DANGEROUS.

Before anyone starts to leap up in arms, let us look a bit more closely at what we are doing, and be honest with OURSELVES, the pilots.

If someone is introduced to hang gliding, and he comes out to club meets fairly regularly, how long do you think it would be before he would see a crash (not a dink, shunt, prang or other diminutive, but CRASH) resulting in pilot injury? Not long, I think.

When was the last time you saw someone pile in, to the cheerful amusement of his onlookers waiting for the inevitable bent aluminium? Look back on accident reports and see how little aircraft damage there is compared to the horrific injuries

Continued on Page 20
SKYLINE - simply better -

The Skyline has no wing wires, just a simple rugged airframe and a carefully cambered sail. Low weight and advanced sail technology give a superbly light 'inertia free' feel to the handling - so important when flying close to the hill or thermalling. Roached tips, short keel and high aspect ratio contribute to the performance whilst mellow slow speed characteristics add to the pleasure.

£475 incl. VAT & Bag.

FLEXI-FORM SKYSAILS
Tel: 061-707 1389
At the Royal Aero Club

Our hang gliding achievements seemed minute compared with some airport activities recognised at the annual Royal Aero Club presentation of awards in London on November 28th. But we did have a Royal Mention when HRH Prince Charles, President of the Club, described his first contact with hang gliding.

"I think the people who do this are incredible. They are completely mad - but then so were the first aviators. I saw one old Estonian thank you, Chris Baker!" try to take off a 6,000 ft mountain close to where I was skiing. He slid along on his stomach and split open his harness. "Off the Alps is not my way of flying," he said.

Hang gliding was well represented at the presentation, both by the British and the Americans. From the U.S. there was Bettina Gray, renowned for her marvellous hang gliding photographs, and Tracy Knauss, editor of "Glider Rider". Bettina was delighted with the splendour of the occasion, and with the informality as Prince Charles mingled with the guests afterwards. Tracy found an opportunity to pass on personally to the Prince, an invitation from President Carter for Prince Charles to visit America for the 2nd American Cup event next year.

Prince Charles had a lengthy chat with Graham Slater, and apart from asking Graham if he had ever had an accident, showed an interest in teaching techniques used in Britain.

At the beginning of the evening, Prince Charles had been welcomed by Mr. W. L. Scott-Hill, Chairman of the Royal Aero Club who said that 1978 had been a great year for achievements by Britain in the field of air sports. Awards were usually presented for feats in the previous year, and on that basis he was sure there would be no shortage of nominations for the following year.

During 1978 some of the achievements had been so outstanding that he outlined them.

For hang gliding, he said there was nothing to report on the FAL scene, but told everyone that in a private venture the British had beaten the Yanks at their own game on British machines.

But as far as the 1977 awards were concerned, the famous British Airways "Big Apple" team for their achievement with Concorde.

Prince Charles admitted that of Reggie Spooner, Derek Evans, though he thought Concorde Brian Milton, Fiona Campbell, myself, Tom Knight, Roy and I was the only member who hadn't had an accident, showed an interest in teaching techniques used in Britain.

A similar sort of thing happened when I first flew a Chippmunk. When I finally depart to the middle of a busy one-way system the kite. I'm sure that I shall be in Piccadilly at the end of which Chris John is found with his head buried under the seat and eyes tightly closed - as Roy assured us it was easy to deal with London traffic when you knew how!

The schools system of training, with better equipment and teaching, has only taken the initial risk out of the sport - beginners are well cushioned! The dangers to intermediate flyers that follow have been well publicised, but not appreciated by the public until they are aimed at. These individuals tend to put themselves in the class above or below the one they belong to, i.e. tending to think of themselves as utter beginners or experts - the dividing line becoming very narrow. Let me elaborate.

For a beginner starting on a standard three years ago to reach ten hours air time, he would have taken innumerable top to bottom plummets, and the same number of five and ten minute soaring flights over a period of some twelve to eighteen months. All these flights would have encompassed an awful lot of different flying conditions, and consequently the pilot would have gained a hell of a lot of experience. He was therefore in a good position to take advantage of improving machinery - indeed it was "chicken and egg" - if the pilots did not progress, neither did the kites (the SAFARI prototype was flying about two years ago but was shelved, being nicknamed the "Twitchy" kites just weren't up to it). Remember that the standard type of machines of two years ago suitable for "advanced" pilots only. They are now "obsolete" hacks used for training!

Nowadays, once a novice has reached E.P.C. standard he can buy just about any machine he desires, and sitting above any of the big coastal sites can quickly notch up ten hours, but not much experience. When these pilots start comparing flying time with some of their older brothers, they see the newer generation of different flying conditions and consequently the pilot would have gained a hell of a lot of experience. He was therefore in a good position to take advantage of improving machinery - indeed it was "chicken and egg" - if the pilots did not progress, neither did the kites (the SAFARI prototype was flying about two years ago but was shelved, being nicknamed the "Twitchy" kites just weren't up to it). Remember that the standard type of machines of two years ago suitable for "advanced" pilots only. They are now "obsolete" hacks used for training!

This article was prompted by a bun day a couple of weeks ago, when three pilots - including myself - landed in the rotor behind a sharp ridge. It has always been a difficult site to top land, made even more difficult by a wind coming from a different direction than normal. I escaped because of experience and a lot of luck. My friend of three years wound up concussed with smashed, bloodstained glasses, and another pilot of lesser experience wrote an airframe off, fortunately not injuring himself. This was in a wind of only about 14 mph. The moral is, of course, NEVER fly in non-shatterproof glasses, and ALWAYS treat rotors with the greatest respect.

If you think you are above all this doom and gloom, then look at how many well known and "invincible" pilots known to you have gone in and been seriously injured, or worse, in the past two years. If you think you can hack it better than them, think again.

Mick Pollard
Safety Officer,
North Wales HGC
Birdman Sports Ltd. Overtown House, Mildenhall, Marlborough, Wiltshire. Tel: 0672 53021
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The “Back Up Systems” by Advanced Air Sports are designed by Jim Handbury, of Elsinore California for Wills Wing Inc. and distributed in England solely by “Skysports”.

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The deployment system is, in our opinion, superior to any other and offers the pilot, faced with structural failure, mid-air collision or loss of control, an excellent chance of an injury free landing.

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This system incorporates a bag deployed 24ft. conical parachute of 20 gores and 20 lines weighing 6lbs. The gores are of solid block construction. The design limitations are 300lbs. combined weight at 100 m.p.h.

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# American Cup Success

## Heat No 1 - Speed

1st GB - G Hobson - Skyhook Safari - 2 min 9 sec
2nd CAN - A Starkey - Seagull 10m - 2 min 42 sec
3rd USA - G Pollack - Oly 180 - 2 min 46 sec

## Heat No 2 - Speed

1st GB - G Hobson - Skyhook Safari - 2 min 45 sec
2nd CAN - W Walker - Oly 180 - 3 min 13 sec
3rd USA - D Rodriguez - Moyes Maxi (US Masters Champ) - 3 min 22 sec

## Heat No 3 - Optimum Time 15 Minutes

1st GB - G Hobson - Skyhook Safari - 3 sec dev.
2nd USA - S Dever - Moyes Maxi - 52 sec dev.
3rd CAN - J Duthie - Lancer 4 - 1 min 47 sec

## Heat No 4 - Optimum Time 5 Minutes

1st GB - G Hobson - Skyhook Safari - 2 sec dev.
2nd USA - M Jones - Sirocco 2 (Moab Champion) - 54 sec dev.
3rd CAN - D Chernoff - Phoenix 8 - 1 min 5 sec

## Heat No 5 - Speed

1st GB - G Hobson - Skyhook Safari - 2 min 7 sec
2nd USA - G Pollack - Oly 180 - 2 min 21 sec
3rd CAN - A Starkey - Seagull 10m - 2 min 29 sec

## Heat No 6 - Sink Rate

1st GB - G Hobson - Skyhook Safari - 8 min 1 sec
2nd USA - D Rodriguez - Moyes Maxi - 5 min 4 sec
3rd CAN - W Walker - Oly 180 - 4 min 44 sec

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**The Skyhook Safari**

*Skyhook Sailwings Ltd.*

**SAFARI** Over 18 months of intensive flying of the prototype Safari proved to us that we had a winner, and it is now in production. For light winds the medium Safari has an excellent min sink performance. It also has the penetration for strong winds and positive, predictable handling with immediate response which is so necessary for all kinds of flying.

Glide angle at speed is good. The reflexed preformed battens in every span make the whole wing pitch positive without the need for locked up tips etc. Vertical dive recovery is positive. Safari is a real cross-country machine which easily makes use of thermals and handles the strong turbulence which often goes with them. For the experienced pilot who demands the best performance but still wants outstandingly good handling.