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WHOLE AIR

The Magazine for the Hang Gliding World

JULY 1986 — \$2.50 (Can. \$3.25)



ISSUE NO. 50 (4th in 1986)

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**PILOT REPORT:
WILLS WING SPORT**

FEATURES:

32 PILOT REPORT—Wills Wing Sport
We fly the latest offering from Wills,
and provide you with perspective by
Paul Voight (who managed to win his
regional qualifier on a stock model).

37 SECOND OPINION
Bay Area pilot Karl Allmendinger flew
one the first Sports brought to San
Francisco, and offers his thoughts.

38 BOX SCORES & SPECS
Paul Voight sizes up the Sport and we
present his 10-scale grading of the
glider. The evaluation is made unique
by comparative scores from the same
pilot as he recalls feelings from several
other gliders he's flown.

1986 GROUSE MOUNTAIN PROGRAM

16 GROUSE MOUNTAIN MEET
Grouse serves up its ninth edition, and
we are proud to be the Official
Program of this prestigious,
internationally-attended championship.
> The Event...
> The Changes, by Terry Holmes
representing meet co-sponsor, Kodak
of Canada...
> The Pilots...
> Diversions available at Grouse
Mountain
> Vancouver area flying sites,
compiled by Andrew Morin...

FIFTH AMERICAN CUP PROGRAM

22 AMERICAN CUP OF CANADA
The fifth running of the popular
international team competition takes
place in Invermere and the Windermere
Valley of eastern British Columbia.
We are pleased to also provide the
Official Program for the Cup.
> The Event...
> Things to do in the Invermere
area...
> Flying sites of BC and Alberta,
compiled by Rod Porteus...

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ONE HOT DAY



BY BOB LAFAY



Cartoon by Bob Lafay

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Mark Bourbonnais

On The Cover:

Canadian National Champion Mark Bourbonnais takes his girlfriend, Sanne Birlie, for her first ever hang glider flight. The site is Mt. St. Pierre, Quebec, site of the 1985 Nationals.

WHOLE AIR magazine
is affiliated with:
WESTERN FLYER
&
SPORT FLYER



Fly America...Fly Kansas

Dear Editor;
The thought occurred to me that we Kansas pilots could help pave the way for the "Fly America" campaign next summer.

Our help could be titled, "Hang Glide Kansas '86." If we can get across the state of Kansas, the Fly America people may have a chance to go all the way.

Armed with this idea, I went to the local chapter of the Cancer Society. They too, thought it a good idea, which started the ball rolling. Since then, the state office has given us the support we need and most arrangements have been made.

We will be starting out on the Kansas/Colorado border, just west of Elkhart, Kansas on the 4th of July. The final destination is the Kansas/Missouri border east of Olathe, Kansas. We will be using the Skyting system exclusively.

We have about 540 miles to cover.

We need help! In order for us to make this trip and bring hang gliding into full view of the public, we need pledges. We will be taking taking pledges on a per-mile basis. This will of course go to the American Cancer Society.

Pledges may be sent to Ron Kenney, P.O. Box 785, Elkhart KS 67950, or to the Kansas State Chapter of the American Cancer Society, 3003 Van Buren, Topeka KS 66611.

RON KENNEY
Elkhart, KS

Racist Blues

Dear Editor;
Re: The "racist" cartoon in the May issue (african bushmen witnessing hang gliding)... I'm hurt! It was never intended to be seen in that way. If anyone else saw it as such I sincerely apologize.

I have been hang gliding since 1973 and have made some trips to other parts of the world to fly, [and felt that] sports have a way of overcoming political and other differences among people throughout the world. I always enrich my life and I hope I do the same for the people I meet during my trips. I have done cartoons about situations and people I meet and none of them to this point has been offended. Laughter is a universal bond of peoples.

I have found **WHOLE AIR** to be much respected for its informational content everywhere I've been. I pass along my personal copies to spread the word of hang gliding, and am proud to be a very small part of it.

Doug [Henderson], I draw 'em like I see 'em. Cartoons, like hang gliding, should be enjoyed for what they are... fantasy. They should not be searched for some underlying reason for their existence. Let's leave the gloom and doom where it belongs: in the "real" world.

Lighten up, Doug. Again, if I have offended anyone in the past, I apologize.

BOB LAFAY
Tujunga, CA

In all the years that Bob Lafay has been drawing his cartoons for WHOLE AIR, not one complaint has ever been received in our offices. On the contrary, many readers have written with various expressions of delight at Bob's sense of humor.

No statement drawn or written was intended as racist or supportive of apartheid. —Ed.

Lost Photographer

Dear Editor;
The "unidentified" photographer of your nice cover photo on the May issue was Lori Judy of Draper, Utah. Cyndy Kaufman (passenger) was borrowing Lori's harness. I'm the person with camera in picture, and can see Lori in my photo.

Also, this is called a "monday launch," a very high wind launch technique use a lot in Utah. Pilot and/or passenger take off fully prone out; it allows immediate control. Wire men simply pick up the glider and let go.

Keep up the good work, **WHOLE AIR**, you're the best magazine out.
PAUL LUNDQUIST
Santa Barbara, CA

Touching Friends

Dear Editor;
Thanks for listing the clubs and associations in the May issue of **WHOLE AIR**. It's a great help to me in my job as "last of the roadies."

Without it, I would never have had the good fortune of meeting face to face with the likes of Jan Siskind, the lady responsible for organizing "LIPS."

With the help of the listing in **WHOLE AIR** I made contact with Jean LeTourmeau of the Quebec Association whom I met a couple of years earlier while in the Invermere Valley, BC, during the Canadian Nationals.

WHOLE AIR's listing has put me in touch with "friends" new and old. I cover a lot of highway, spend a lot of time travelling alone. Thanks for the means with which to find smiling faces and friendly handshakes.

LUIGI CHIARANI
Sylmar, CA

Magic Gliders

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Quality: Every Magic IV is hand crafted with the finest materials available. Trend setting fittings and hardware have been incorporated to make the Magic IV a flier of engineering artwork. Minute details (in the sail) ensure that the sail is clean at all speeds. Wear points are eliminated with protective covers.

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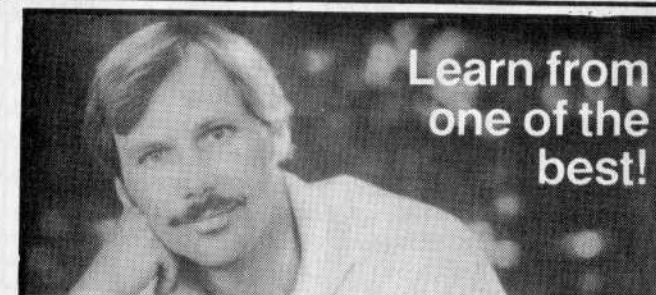
We know that when you find all of the above characteristics combined together in one great glider, your enjoyment in flying will improve.

Service: U.S. Airwave provides a warehouse of parts and information to service the Magic line. Our continually growing inventory of replacement parts and accessories insures that your new Magic is never out of commission for longer than necessary. By improving on the service with excellent factory support, we've eliminated the fear of buying a European glider. No other distributor can offer you such a complete inventory. We offer next-day UPS delivery on most parts, and our professional dealer network is required to stock high turn-over parts to instantly fix your dinged Magic wing. Furthermore, you can rest assured Airwave Gliders are here to stay in the USA.

Resale: High demand for a quality used glider in most guarantees that your investment will not be lost when you resell your Magic (if you ever choose to). A used Magic is always well sought after.

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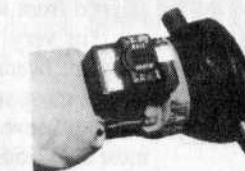
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SPECIAL NEWS

Canada's Randy Haney Flies New Official Distance World Record (Approval pending)



Canada's No. One Ranked Pilot—Randy Haney—may have a new world record, as he logged a flight initially measured at 202 miles. While the great circle distance computations were not available at press time, the voyage will assuredly eclipse the 186 mile mark held current by England's John Pendry.

Haney, 24, piloted his Airwave Magic IV from eastern British Columbia's Mt. Seven, near Golden, BC, for a nine hour trip that carried him to Trego, Montana as he crossed the Canadian/American border. He did not launch until 1:30 pm on June 2nd, yet continued cross country till 10:30 pm. Though this would represent a violation of America's F.A.R. Part 103, the flight started in Canada so a violation will not invalidate the effort, it is felt. All knowledgeable cross country pilots will comprehend the unusual aspect of maintaining soaring flight till this late hour, when thermal lift is normally well dissipated.

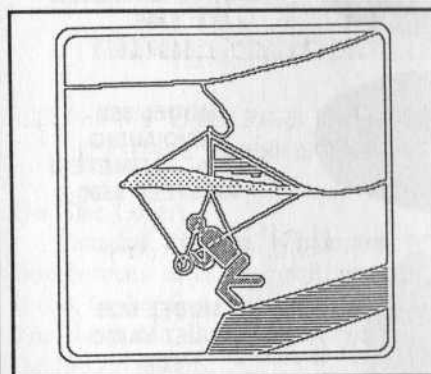
The flight will be filed through the Canadian Hang Gliding Association to the FAI, world recording and sanctioning body for aviation flight achievements, and will certainly break the mark now listed to John Pendry, the current world champion, who flew a 186.81 mile flight in the Owens Valley on the same day as Utah's Larry Tudor managed his memorable—but not official world record—flight of 221.5 miles.

Tudor's mark did receive official national record sanction from the NAA, the American representative to the FAI (NAA has all other U.S. aviation organizations as members, such as the USHGA). Pendry's flight was officially recognized because he fulfilled all the requirements, some of which include a sporting license, barograph, and proper witnesses. Evidently Haney's 202 mile flight will address these prerequisites, though this could not be verified as of late June 1986.

If indeed the flight exceeded the 200 mile mark, it will be the first time anyone has broken that two century barrier since Tudor's still standing flight set back in July of 1983. In 1985 two flights came very close but fell short of 200 miles, when No. One ranked Rick Rawlings achieved 198 miles in the Owens Valley, and Mark Newlands made 198.8 miles in Australia following his launch from tow.

—WHOLE AIR wishes to thank Rod Porteus of Alberta, Canada for this information.

First Double System Hang Glider Simulator® Licensed, Underway



The first double system Hang Glider Simulator® is under final construction in Prince Edward Island, Canada. The Simulator® is a specially-designed hang glider that is supported by an overhead cable. It has value for conventional hang glider training as well as allowing tourists to sample the thrill of hang gliding in a very realistic environment which has proven very safe. A double system is one using two gliders flying from a common launch ramp to two adjacent landing zones. The invention has gone through U.S. Patent Office search registration, and qualified as a unique design.

A company called Hang Glider World, headed by Carl Doucet and Allison Drake of Prince Edward Island, has purchased license and hardware, and will be operating the attraction on the north shore of PEI, an island province of eastern Canada. The double Simulator® system will be erected on the grounds of Adventure Park, a new tourist attraction which will feature a full-scale mock-up of the NASA space shuttle. "The facility will also have an aviation museum and other flight oriented items of interest, so our Simulator® will fit in beautifully," said Doucet. The device should be operational in early July 1986, as final site preparations are completed and Simulator® components are shipped from the manufacturing site in Chattanooga, Tennessee.

"I'm very pleased to have Drake and Doucet moving on this project," said Dan Johnson, licensor of the Hang Glider Simulator®, "and I expect this PEI installation to be our most successful yet." The simulator has been licensed in three other locations to date, and several others are in various stages of negotiation. "This double system is our most ambitious project so far, but has helped us iron out many manufacturing decisions," added Johnson. The Simulator® is now sold as a complete hardware package with license agreement.

"Prince Edward Island, Canada is a tourist haven for eastern Canada, with its off-season population of 125,000 swelling to more than a million persons each summer," said Drake. "The north shore is the location of many successful tourist operations, and we feel we have a chance for an active business here that will also showcase the sport of

Continued on Page 8

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Always happy landings,

Hans-Josef Frings

Special News

Continued from Page 6

Magic Manufacturer Issues Notice on Fastener Pins



Jim Will Breaks Own Endurance Record; Achieves 34+ Hours

hang gliding in a most favorable light," he continued. Drake and Doucet completed and documented a thorough business plan before embarking on the project. Canadian government funds have been made available to them for some costs, and several businessmen on PEI have expressed an interest in becoming stockholders of the new company.

For more details on this latest development or further information on the Hang Glider Simulator®, write P.O. Box 144, Lookout Mtn., TN 37350.

Airwave U.K. has notified owners of an incorrect nose catch pin made of steel rather than stainless steel. They encourage all owners to contact their dealers who can provide the correct item.

The directive is put the attention of all owners of Magic IV models built between October 17, 1985 and April 28, 1986. Apparently not all models may have the wrong pin as the company advises, "Some Magic IVs built between the above dates have been fitted with steel instead of stainless steel split-pins securing the clewin pin in the nose catch, cross tube catch, and cross tube adjuster plate."

Owners are asked to verify the incorrect pin by using a magnet. Stainless steel will not be attracted, steel will. "The steel split-pins are as good as stainless steel split-pins until they get very rusty, which will have especially if you fly near [salt water]," reports the company. Very rusty split pins will eventually fail.

Phone numbers for the American dealers of the Airwave Magic line can be found in the ad run by Airwave U.S. in this issue.

Jim Will has broken his own endurance record by flying 34 hours and six minutes, on a flight said to commemorate Lindberg's 33 hour trans-Atlantic crossing. Will's previous mark was 24 hours and 31 minutes, set on April 30-May 1, 1980 while flying a UP Firefly 2B (July/August 1980, pg. 27).

Launching from Hawaii's Makapuu Point—site of his previous endurance record—at 6:06 am on June 3rd, Will flew his Ultralite Products Gemini 165 till June 4th at 4:09 pm. The record is being reviewed for acceptance by the NAA, but does not qualify for any established category from FAI. Additionally, it has become USHGA's perception that endurance marks should not even be encouraged as they invite the pilot to push him or herself beyond the limits of normal physical endurance. In the seventies an animated competition took place by several name pilots who sought to hold the endurance mark, but in later years it became widely thought to prove "only that the wind blows a long time in some places."

Will was said to have prepared himself at length prior to making the attempt, and reported no trouble remaining awake for the long flight. He obviously worked hard on physical conditioning, and he had used a specially prepared and regulated diet.

The Honolulu office of the FAA had extended a waiver to F.A.R. Part 103 which does not permit flight after dark, and Will had mounted a strobe light both on the aircraft, and on the beach where his landing would take place. Will also informed local helicopter pilots of his flight, as they often give tourist rides along the scenic cliffs.

While Will may not receive world recognition for his flight, nor may he endear himself to the USHGA decision-makers, he nonetheless must be congratulated for a physical endeavor of significant proportions. Further the publicity resulting from the story should be largely positive. However, some will undoubtedly write the effort off to "those crazy hang gliders" in much the same way that telephone booth "cramming" was once regarded.

INDUSTRY NEWS

CG1000 Harness Receives Testing

The CG 1000 integral harness has received testing for hypothetical loading in the event of an emergency parachute canopy deployment. The testing was done by Greg Natke as part of his engineering school project at SUNY College. The CG 1000 is manufactured by Center of Gravity in Chittenango, New York.

The model is the latest variant on the popular enclosed harness design started with the release of the Keller integral harness from Europe. This style of harness offers better streamlining for the pilot as well as greater warmth at high altitudes. The CG 1000 takes the design another step partly by having a single, heavy suspension line routed from the harness to the hang straps, a faired back up line, an smooth aerodynamic shape, and has

Continued on Page 10

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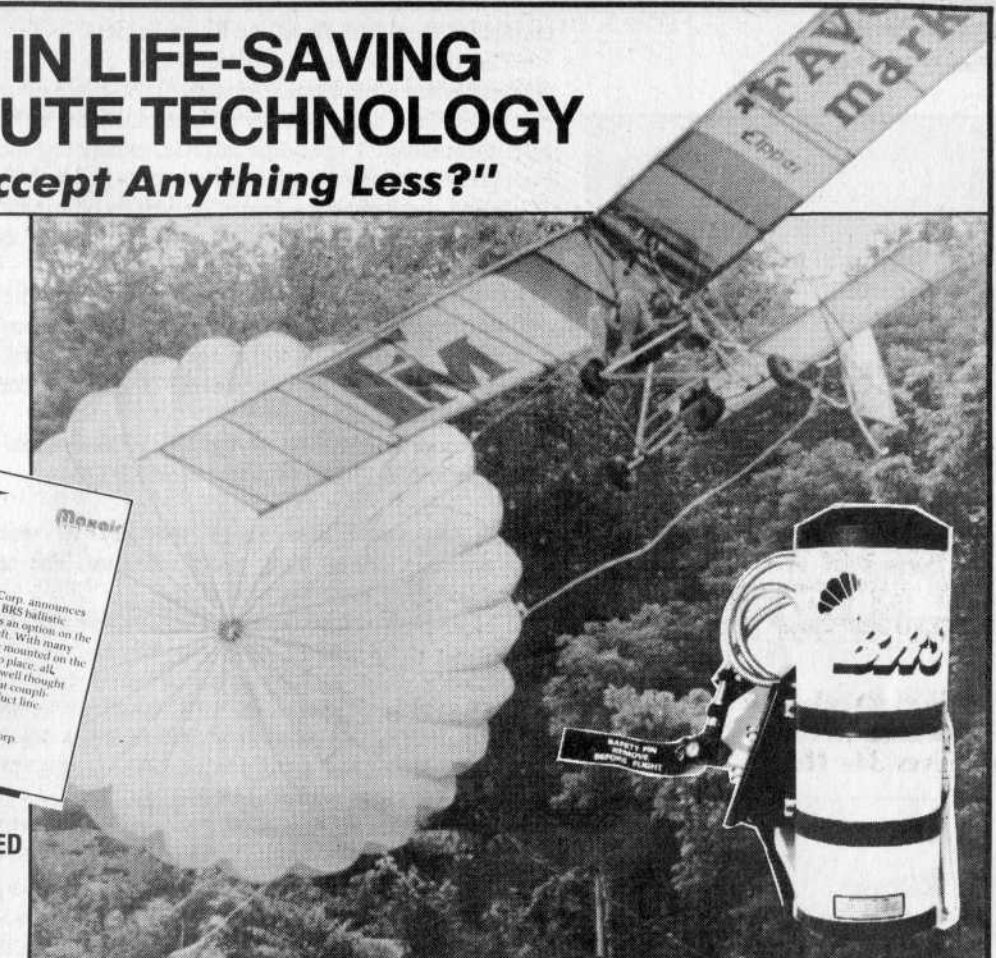


photo by Bettina Gray



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- \$29.00 SUBSCRIPTION (\$32.00 foreign) for one year.
- \$53.00 SUBSCRIPTION (\$59.00 foreign) for two years.
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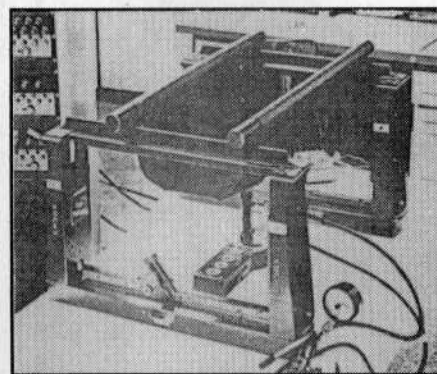
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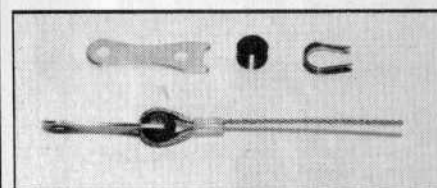
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Industry News

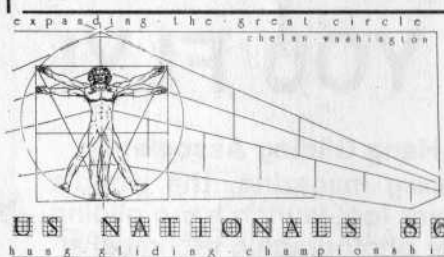
Continued from Page 8



LEAF Markets New Tang Setup



Rice Releases "Hang Gliding II" Video



Nationals T-Shirt Design

'86 Nationals T-Shirts Go On Sale

eliminated the dorsal fin of the Keller harness.

The other noticeable feature of the CG 1000 is a "floating" hang point for pitch changes when a pilot pulls forward. The single point suspension line will shift to an aft position. While this evidently does not alter the hang point, it does make it easier for the pilot to maintain a head-low attitude, enhancing the streamlining effect of the harness. Foot pressure on the internal stirrup works in conjunction with this feature.

Inside the harness, a frame "serves to eliminate shoulder pressure, 'suspension line squeeze,' and provides total torso and leg support," says developer Jay Gianforte. It is this internal frame which Natke tested.

The tests showed that the frame "does resist the design loads without going beyond the elastic limit of the 6061 T6 aluminum" when a 250 pound pilot in a 3-G load situation is simulated. Strain gauges were employed extensively, and the results graphed for later study. The test, however, "should be considered preliminary and not at all conclusive," ends the report.

For more information on the CG 1000, contact Center of Gravity, Inc., at Rt. 173, Chittenango NY 13037, or phone 315/687-3724.

LEAF has made new tangs specially to work with never kinks as part of their extensive line of hang glider hardware. The new tang is notched to aid the cable-saving quality of the never kink fitting.

"The narrow waisted tang is a very efficient design, weighing less yet just as strong as other designs," boasts LEAF owner Bill Raisner. The new tang is made from polished 304 stainless steel. LEAF supplies the product in a pre-assembled, ready to swage state, including the tang, never kink, and thimble. It is also available as a single or two piece never kink. The company also advises, "The Never Kinks Cable System is protected under U.S. Patent No. 4,398,336, and may not be bid on competitively."

For added information on the never kink tang setup, call LEAF at 303/632-4959, or write 331 S. 14th St, Dept WA, Colorado Springs CO 80904.

Photographer Doug Rice has released "Hang Gliding II," a longer, more sophisticated version of his pro-hang gliding video tape from 1985. The new tape was commissioned by Kitty Hawk's John Harris, who reportedly was impressed with Rice's work on "Hang Gliding."

The new work, which is 25 minutes long and has 350 frames, employs a story line arranged to educate newcomers to the sport as well as entertain current pilots. The music score uses songs on "The Man from Snowy River" soundtrack, from the Rascals, Willie Nelson, Christopher Cross, John Denver, and The Pointer Sisters.

Early reviews are said to be good, with several orders being received by Rice prior to its completion. Copies may be ordered for \$37.00 plus \$2.00 for shipping and handling. The tapes—available in VHS or Beta—both use stereo recording, and are all mastered from 3/4 inch broadcast quality tape. To order, send check or money order to Doug Rice at 3920 Blue Ridge Rd., Raleigh NC 27612.

U.S. Nationals T-Shirts went on sale in mid-June, a month before the repeat event at Chelan Butte. The design, generated through the efforts of Seattle's Rick Knight can be ordered from the Cloudbase Country Club, again the sponsor of the national event.

Available in the usual sizes, in colors of red, white, navy, green, tan, and yellow, the charge is \$9.50 postpaid. Proceeds will go to the Cloudbase Country Club.

To order, write the club at P.O. Box 3904, Seattle WA 98124-3904, or call 206/932-3103, att'n: Rick Knight. Please specify color and size.

INTERNATIONAL NEWS

Whittall Publishes New Book, "Starting Soaring"

English writer Noel Whittall has published a book for the student pilot who has recently graduated from a hang gliding school. *Starting Soaring* will take a new pilot who has mastered the fundamentals and walk him or her through the beginning stages of soaring flight. It is an area where novices begin to do a lot of learning on their own, and Whittall's book will both fill an important niche and provide valued instruction at a critical stage in the learning process.

Most pilots realize their learning never ceases. Books have been available for some time to assimilate more advanced skills (Pagen and Pfeiffer have good efforts on the

Continued on Page 12

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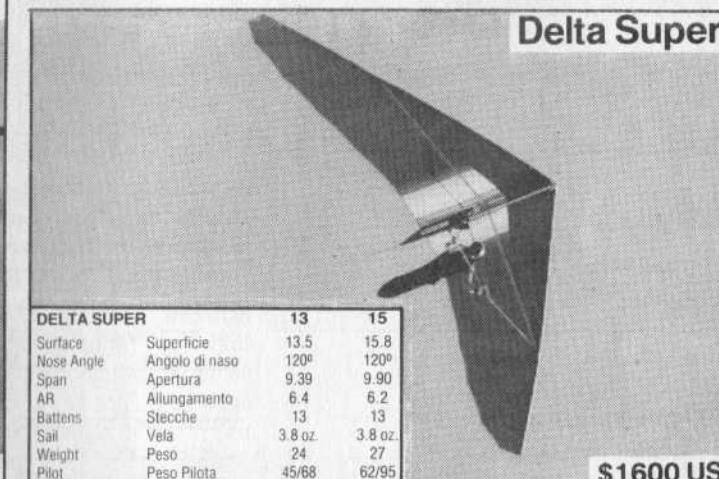
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Nose Angle	120°	120°	120°	120°
Top Speed	60 km/h	60 km/h	55 km/h	55 km/h
Stall	25 km/h	25 km/h	25 km/h	25 km/h
Weight	24 kg	27 kg	32.5 kg	33.5 kg

Delta



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Delta Super

DELTA SUPER	13	15	
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AR	Allungamento	6.4	6.2
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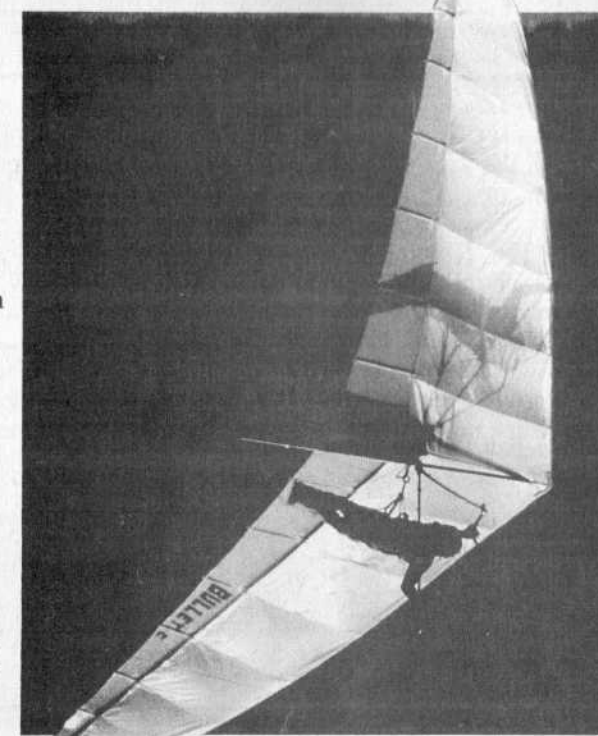
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International News

Continued from Page 10



Germany's Bluff Rigid Wing Discontinued

market). With *Starting Soaring* Whittall offers the hang glider school graduate a bridge to these other published works.

Starting Soaring covers topics like choosing a suitable glider and equipment, finding the best site for first soaring flights, seeking out that elusive rising air, stretching one's airtime from seconds and minutes to hours, landing on top, working lift from tow-launched flights, coping with mountain flight for the first time, and avoiding accidents. The book is written in a lively, popular style that has become Whittall's trademark in the sport. "The experiences of my son, Robert, provided the inspiration for the book," reveals Whittall. Robert learned to soar as soon as he was 16, a feat Whittall says, "he picked up in less time than it took to write the book."

Noel Whittall has been flying hang gliders since the earliest days of the sport in Britain. Currently chairman of the British Hang Gliding Association, he has represented the BHGA in many countries. Whittall has also written *The Complete Hang Gliding Guide*, and has been the British correspondent for **WHOLE AIR** for several years. His contributions have appeared in the BHGA's *Wings!* as well as **WHOLE AIR**.

The 112 page book is published by White Line Press, and contains 45 black and white photos plus 20 line drawings which help greatly in transmitting understanding of the complex art of soaring. It retails for £5.95 (about \$8.95, subject to exchange rate fluctuation), and a dealer program is available. To obtain copies or further information, contact White Line press at 60 Bradford Rd., Stanningley, Leeds, England LS28 6EF.

West German Thalhofer's Bluff rigid sailing has been scrapped reports *Drachenflieger* editor Werner Pfandler in mid-May. The Bluff project (October 1984, and January 1985) stemmed from Ludwig Thalhofer's three-axis ultralight, the Bronco.

The Bluff used a GFK plastic frame, coated in fabric the usual way. The pilot lies between the wing halves, and aerodynamically controls the wing through a joystick. Initial test flying and subsequent refinements seemed to be proceeding successfully, and some performance figures were confirmed in early slow flight tests. The Bluff hoped to achieve a 23:1 glide, 130 fpm sink rate, and a top speed of over 100 mph, through the use of a 183 square foot wing. The Bluff weighed in at 88 pounds, had a span of nearly 38 feet, and a 148 degree nose angle. In all, it represented a very intriguing development.

"The Bluff is—not quite—a bluff, but almost. As Thalhofer put it: '...too much cost, too much weight, and too little performance in the 30-40 mph range.' The consequence of these assessments is that he has stopped development," writes *Drachenflieger's* Pfandler. "It is sad, as it cost him a little fortune. But it seems most of the rigid wing designers have come to the same conclusion: lots of hassle for little improvement," continues Pfandler.

—Thanks to Deane Williams of Farmington, CT for this report.

REGIONAL NEWS

Tree Topper Club Wins Battle with Industry Giant, U. S. Steel

The Tennessee Tree Toppers have won their court case with the U.S. Steel Company. The Tennessee hang gliding club had a conflict over property rights and usage with the steel giant. The company was attempting to sell a small parcel of land to the club, so that the club would still have access the southeast facing site at Whitwell, Tennessee. The price was said to be "exorbitant."

The club owns the site on the bluff some ten miles away and across the valley from their northwest facing Hensen Gap site (see May 1986, page 10). Whitwell offers a 1,600 foot vertical launch in a direction not addressed by many other sites in the area, so it's loss would hurt the eastern community of pilots.

As the report from club board member Cliff Whitney goes, "A Texan hang glider pilot with 'connections' at U.S. Steel read the news item in **WHOLE AIR**. He fired off a letter to his friend at the St. Louis offices of the steel firm, and things began to happen." A negotiator was flown down to Tennessee just before the court date to attempt an out-of-court settlement with current club president Dennis Michels.

"Dennis turned him down, and the court recognized our rights. So instead of a 'bargain' offer of 'only' \$2,000 for a tiny piece of land, the club was granted access to the launch area," Whitney continued. An 85-year old gentleman gave evidence in the hearing, substantiating the fact that the entrance road or path used by club members was in fact the old road along the bluff years ago. Common law calls this a "public road," so no one could prevent its use. A public road is different than a "county road," in that it has no

Continued on Page 14

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Tandem flight, Owens Valley. Photo by J. Heiney.

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Torrey Pines. Photo by J. Heiney.

• Watch next month's ad for the release of Delta Wing's new high performance glider — the **XCEL!**

Regional News

Continued from Page 12

Mission Soaring Builds, Moves into New Shop

minimum specifications.

"A survey team—persons disinterested in the case—will go to the site in conflict and appraise a small area that the club must buy from U.S. Steel. This 20 foot square will probably cost us no more than \$100, and will end our problems," explained Whitney. The small parcel separates the launch and setup area from the public road, and is owned by U.S. Steel. Evidently the judge ruled that U.S. Steel must agree to sell this tract to allow the access needed by the club.

The San Francisco area shop, Mission Soaring, has a new location as of May 17, when they held a Grand Opening party attended by 150-200 area enthusiasts.

"The move represented a new opportunity for us," said owner Pat Denevan. "We're only ten minutes away from the old shop, but we now overlook our training hills at Ed Levin park, plus we're so near the freeway that a glider can be viewed from the highway."

"Our new home is a brand new, 'tilt-up' structure (walls built flat and erected whole), the interior of which we completely constructed ourselves, so it's custom designed just for Mission Soaring," Denevan added. The new shop has high ceilings that permit them to store as many as 100 gliders inside.

Denevan reports that they experienced their best month yet in May, in spite of that chaos involved with a move. Mission also reported their best year ever in 1985.

Those interested should note their new address of 1116 Wrigley Way still in Fremont, and new phone number of 408/262-1055.

—Thanks to Wings of Rogallo's Flight Line (editor Greg Shaw) for the update.

Nine Gliders Displayed at Mission College Quad

Wings of Rogallo hung nine gliders at Mission College in Santa Clara over the weekend of May 3-4 (photo was only able to show 7 of 9). The display was in the Quad building on campus, with arrangements made by WOR member Tom Gill.

The colorful aerial display, an informational poster and three projector slide show by Dave Stubbs, Russ Locke, and Terry Ferrer, ran for two weeks at Mission College. "Response was amazing. The college administration and student body were ecstatic! They felt it was the most beautiful and impressive display ever hung inside the Quad and they are excited about expanding the display next year and maybe tying it into an aviation week type of celebration," reports Terry Ferrer.

Gill was assisted in the work of winching up the nine gliders by USHGA president Russ Locke, Rand D. St. Clair, John Thoe, Dave Stubbs, Dave Luken, and Wayne Ashby. The gliders were all placed at various attitudes and altitudes, so that the wings were visible by the college students and staff at all three floor levels of the Quad building.

—Report filed by Terry Ferrer.

Kitty Hawk's John Harris has called for support in combating an "environmental group [that] continues to try to get hang gliding out of Jockeys Ridge Park. Those... who have been involved in the sport for a while know the problem and know how important hang gliding at Jockeys Ridge is to the sport since many... learned to fly [there]," continued Harris in a letter of May 9, 1986.

If the latest efforts are successful, pilots will have to exit the park two hours before the park closes (6:00 pm in May, and 7:00 pm in July through August). "Some of the best flying is near sunset when the winds smooth out," points out Harris. The situation seems more unfair as hikers are only being asked to exit the park 15 minutes before closing. Harris also revealed that with the new closing hours, Kitty Hawk's evening class would be eliminated. That class last year accounted for some 1,300 students.

Those interested in coming to the aid of Kitty Hawk can contact Harris at P.O. Box 340, Nags Head NC 27959, or call him at 919/441-4124.

The Sylmar Club has installed an automated weather station at the top of the mountains above Sylmar, California. The device uses a digitally recorded voice to tell wind direction and speed in miles per hour, and is said to be "very easy to understand."

The project was the combined effort of Wayne Yentis, Harry Martin, William Bennett, and Craig Baker. Pilots are encouraged to call 818/362-9604 if you would like to hear the new weather station. "Generally, the wind direction needed to fly Kagel Mountain and other takeoff [sites] in the area is from southwest to southeast," reported Baker.

Another of the windtalker systems has been in place for some time at the Cochrane, Alberta site nearby to the Muller Hang Gliding business in Canada. Those desiring to listen to this service may call the Cochrane "Windtalker" by dialing 403/932-3551.

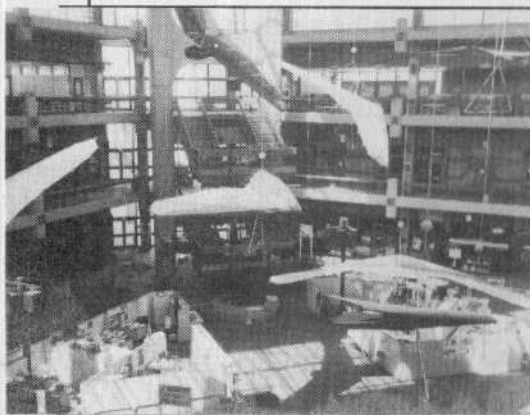


Photo by Terry Ferrer

Kitty Hawk Calls for Support

Sylmar Installs Automated "Windtalker"

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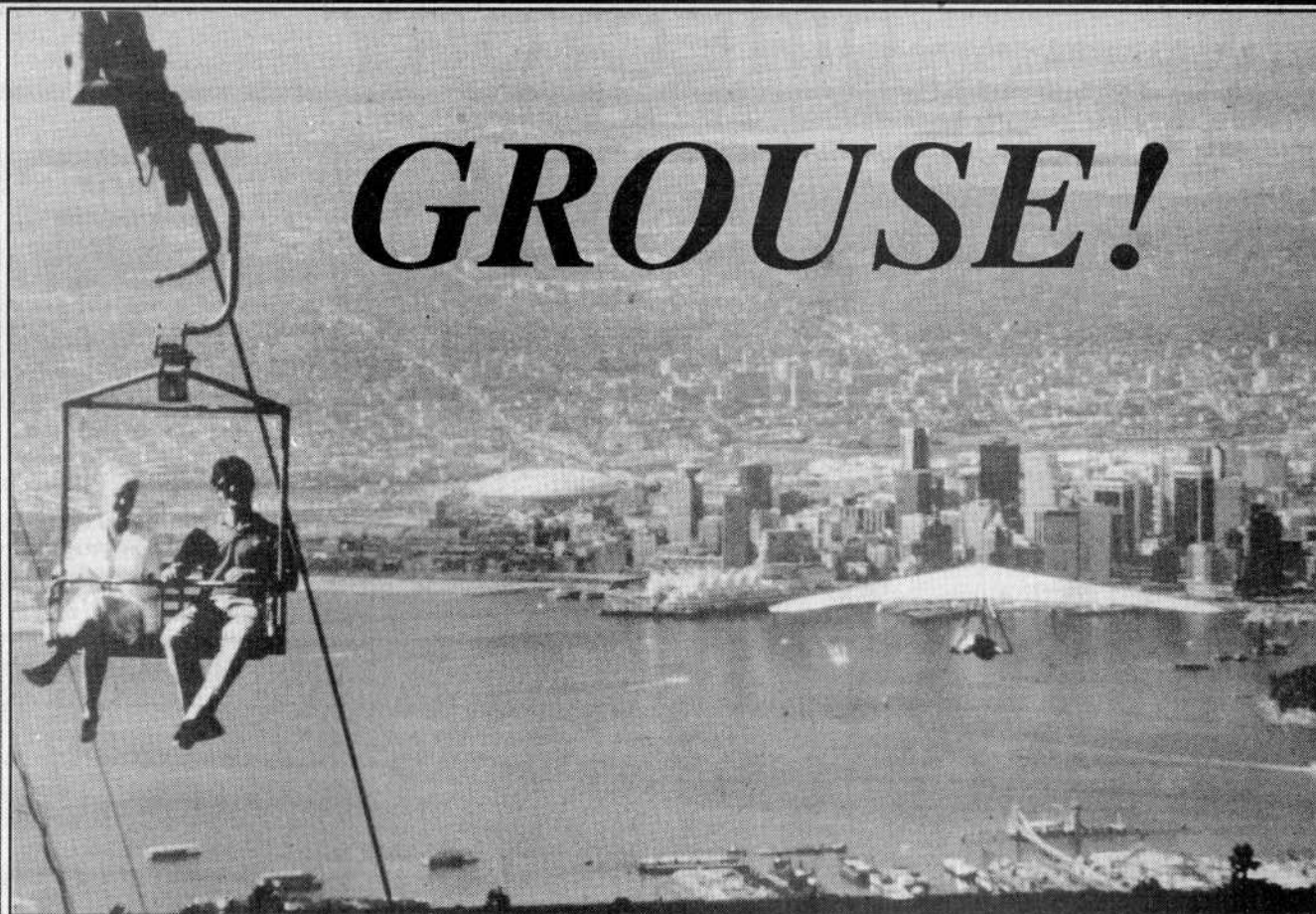
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GROUSE!

Known to pilots throughout the world simply as, "Grouse," the international contest just to the north of beautiful Vancouver, British Columbia, Canada, prepares to offer its ninth edition. Stories by Terry Holmes—writer for meet co-sponsor Kodak of Canada; Dan Johnson; and with help from Grouse Mountain Resorts, Ltd., we provide new perspective on one of hang gliding's primary money meets. This official program will help you follow the pilots and the action.

A lot has been written about the long standing hang gliding contest each summer at Grouse Mountain in Vancouver, British Columbia Canada. In the several published articles, the focus has always been rather tightly confined to the meet itself, its pilots and gliders, and the results and winnings of the successful fliers.

In this issue of **WHOLE AIR**, a somewhat wider view of Grouse is taken, as the ninth event takes place. The setting is just to the north of this beautiful city which in 1986 is hosting an international exposition titled, "World in Motion; World in Touch." The spectacular six month fair has transportation and communication as its co-themes. Of keener interest to hang gliding enthusiasts is the association of a hang gliding event as part of the chock-full Expo 86 calendar.

The event: "The Ninth Annual World Invitational Hang Gliding Champ-

ionships." It is co-sponsored by Grouse Mountain Resorts, Ltd., and Kodak-Canada, Inc.

The dates: July 23-27, 1986.

Described as one of the more prominent hang gliding sites in North America, Grouse offers a setting unlike any other. The takeoff is 4,100 feet above sea level, and the landing field is at 700 feet ASL, giving the pilots 3,400 feet to demonstrate skill as they traverse the 1.6 miles to the landing area. Add to this impressive vertical an easy access via Skyride—eliminating the need to drive bumpy mountain roads—plus a magnificent panorama, a southern exposure, a host of mountain-top facilities and services for both pilot and spectator... and you begin to appreciate why this site is so dynamic.

Grouse has maintained good participation from some of the top pilots in North American for one primary reason.

Money. The Grouse Invitational will offer almost \$7,000 in prize monies. So it is no wonder that of the one hundred highly ranked pilots that were invited, a good number will attend, providing a hotly-contested match. Pilots have been solicited from Canada, America, Australia, New Zealand, Britain, Japan, Europe, and South America, making Grouse an international affair as well.

In addition to what is called the "Men's Pylon" event—the primary competition—Grouse sponsors an aerobic competition that has received the efforts of some of the finest upside-down pilots in the world. In addition to these two separate meets, a third "Women's Pylon" contest pits only female pilots against one another.

Grouse's well established business in North Vancouver, plus its spectacular setting and the amenities offered by the

GROUSE! Continued on Page 18

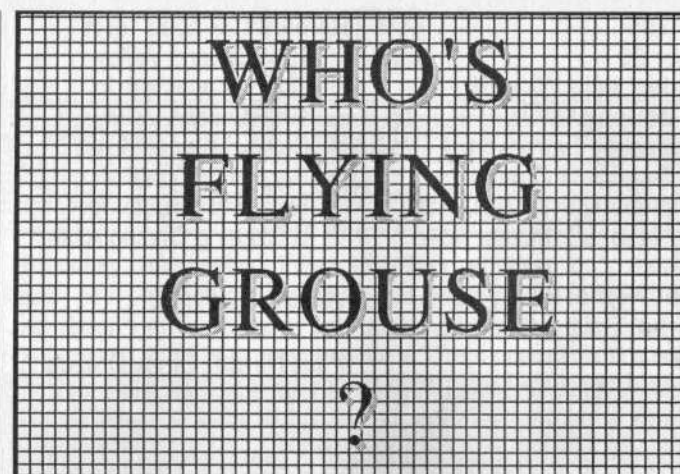
Meet the pilots registered to fly in the 1986 Grouse Mountain meet
MEN'S PYLON

Pilot Name: Mark Bourbonnais
Home: Mississauga, Ontario
Age: 28
Glider: Wills Wing HP 170
Remarks: Canadian National Champion in 1985; longest flight in the east in 1984 at 107 miles; cover photo of this issue.

Pilot Name: Gerry Charlebois
Home: Honolulu, Hawaii
Age: 26
Glider: UP GZ-Europa 162
Remarks: Placed 2nd in 1984 Hawaiian Regionals; altitude gain record for Hawaii (5,500 feet); former Vancouverite; active wave jumper and scuba diver.

Pilot Name: Greg Dewolf
Home: Long Beach, California
Age: 37
Glider: Wills Wing HP 170
Remarks: Placed 2nd in 1985 Southern California Regionals; flown for television cameras frequently; co-developer of Fly America, a promotional trans-American tour.

Pilot Name: Mark "Curly" Dunn
Home: Lookout Mtn, Tennessee
Age: 33
Glider: Moyes GTR 148 or 162
Remarks: Placed 6th in 1985 Masters of Hang Gliding; second longest flight in the east (115 miles); sponsored by Tut Fliers.



Pilot Name: David Ferguson
Home: Niagra Falls, Ontario
Age: 31
Glider: Wills Wing HP 170
Remarks: Has flown 100+ mile flight in Owens Valley; longest 1985 flight in New York state (96 miles).

Pilot Name: John Heiney
Home: San Clemente, California
Age: 36
Glider: Delta Wing Mystic 155
Remarks: Placed 1st in 1985 and 1981 Southern California Cross Country Open; well-known for outstanding aerial photography of hang gliding.

Pilot Name: David C. "Chip" Henley
Home: Sausalito, California
Age: 39
Glider: Airwave Magic 166

Pilot Name: Rob Kells
Home: Santa Ana, California
Age: 30
Glider: Wills Wing Sport 167
Remarks: Placed 1st in 1980 Grouse meet; placed 2nd in 1983 U.S. Nationals; placed 3rd in

1982 U.S. Nationals; president of Wills Wing

Pilot Name: Mike Meier
Home: Tustin, California
Age: 35
Glider: Wills Wing Sport 167
Remarks: Placed 2nd in 1980 Grouse meet; Hang Gliders Mfrs. Assn. president last five year; glider designer.

Pilot Name: Rick Mercier
Home: Calgary, Alberta
Age: 29
Glider: Seedwings Sensor 160
Remarks: Placed 1st in 1981 Canadian Nationals; flew on Canadian World Team member in 1981 and 1983 (team placed 4th both years).

Pilot Name: Steve McQuilliams
Home: Aptos, California
Age: 35
Glider: Seedwings Sensor 160VG
Remarks: Placed 1st in 1982 Northern California Regionals; placed 3rd in 1983 Northern California Regionals; achieved a 126-mile flight in the Ownes Valley in just 3 hours.

Pilot Name: Howard Osterlund

Home: Campbell, California
Age: 30
Glider: La Mouette Hermes 16
Remarks: Currently ranked 11th in the United States.

Pilot Name: Rick Rawlings
Home: Canoga Park, California
Age: 29
Glider: Wills Wing HP 170
Remarks: Ranked 1st in USA; placed 1st in 1985 U.S. Nationals; placed 1st in 1986 Australia's Buffalo Classic; had 2nd longest flight of the year for 1985 at 198 miles.

Pilot Name: Ricardo Rouco
Home: Toronto, Ontario
Age: 40
Glider: Wills Wing Sport 167
Remarks: Placed 1st in 1986 South American Championships in Uruguay; placed 2nd in 1985 Ontario Blue Mtn meet; holder of Uruguayan cross country record.

AEROBATICS

Pilot Name: Chuck Dugan
Home: Encinitas, California
Age: 33
Glider: UP GZ-Europa 162
Remarks: Placed 3rd in 1985 Grouse aerobic meet.

Pilot Name: Mitch MacAleer
Home: Santa Ana, California
Age: 28
Glider: Wills Wing HP 170
Remarks: Placed 1st in 1985 Grouse aerobic meet; placed 1st in 1985 Telluride aerobic meet;

Continued, next page

achieved 20 consecutive loops in May 1986.

Pilot Name: Aaron Sweptston
Home: Seattle, Washington
Age: 27
Glider: Airwave Magic III 166
Remarks: Earned Honorable Mention in 1985 Grouse aerobatic meet.

Pilot Name: Paul Voight
Home: Pine Bush, New

York
Age: 30
Glider: Wills Wing HP 170 or Sport 167
Remarks: Twice won Region 12 Qualifier; placed 6th in 1981 U.S. Nationals; Master rated.

Pilot Name: Jim Zeiset
Home: Salida, Colorado
Age: 41
Glider: Wills Wing HP 170

Remarks: Placed 1st in 1985 Owens Valley Open; placed 4th in 1985 Owens Valley Classic; placed 4th in Region IV Qualifier; Regional Director for U.S. Hang Gliding Assn.

WOMEN'S PYLON

Pilot Name: Cindy Drozda
Home: Boulder, Colorado

Age: 28
Glider: Wills Wing Sport 167
Remarks: Placed 1st in 1985 Grouse Women's meet; member of the "Fly America" promotional tour slated for 1987.

Pilot Name: Kate Dunn
Home: Lookout Mtn., Tennessee
Age: 29
Glider: Moyes GTR 148 or 162
Remarks: Sponsored pilot for Tut Fliers

S*I*T*E*S GROUSE/B.C.

Remarks: Soarable March to June, flyable from March to October
Best Flight: 32 miles

PEMBERTON

Vertical: 1,700 feet
Faces: West (late in day launch)
Access: 4 wheel drive
Skill Level: Hang IV
Nearest City: Vancouver
Remarks: Soarable May to September; recently discovered site; highest altitude gains in western B.C., i.e., 9,000 feet; adjacent to Whistler Mtn.
Best Flight: 30 miles out and back; much potential predicted for longer flights

—Compiled by Andrew Morin

Pictured above:
Pemberton

GROUSE! Continued from Page 16

Resort, always draws large crowds to observe. This alone distinguishes it from most other hang gliding competitions where spectators do not attend in droves because of logistical difficulties.

All in all, Grouse sums up to one of North America's... even one of the world's leading hang gliding competitions.

1986 Purse

For the ninth annual event Grouse has an impressive list of prizes allocated to successful pilots.

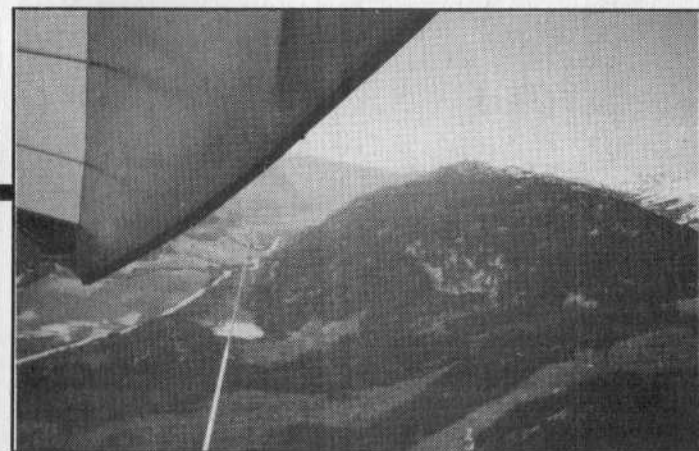
Men's \$5,000	Women's \$750	Aerobatics \$1,000
1st \$2,500.00	1st \$350.00	1st \$500.00
2nd \$1,250.00	2nd \$250.00	2nd \$300.00
3rd \$650.00	3rd \$150.00	3rd \$200.00
4th \$350.00		
5th \$250.00		

1985 Winners

Who collected the purse in last year's event?

Men's Pylon: Steve Moyes—\$2,500; Randy Haney—\$1,250; Rick Duncan—\$650; Jim Lee—\$350; John Pendry—\$250; **Women's Pylon:** Cindy Drozda—\$450; Connie Bowen—\$250; Debbi Renshaw—\$100; **Aerobatics:** Mitch MacAleer—\$500; Ron Young—\$300; Chuck Dugan—\$200.

Other successful Men's Pylon pilots in 1985 were: Ken Brown (6th); Rick Rawlings (7th); Bob Corbeau (8th); Greg Dewolf (9th); Tony Schmidt (10th). Kim Butterworth finished fourth in Women's Pylon, and Aaron Sweptston's aerobatic performance earned him an Honorable Mention.



AGGISSIZ

Vertical: 2,200 feet
Faces: Southwest
Access: Rough 2 wheel drive road
Launch: Ramp
Skill Level: Hang 4
Location: Aggissiz, B.C.
Nearest City: 1 1/2 hours from Vancouver
Remarks: BC's most consistently soarable site from March to October
Best Flight: 38 miles (as achievable in a straight line)

VEDDER

Vertical: 2,600 feet
Faces: Northwest
Access: Fair 2 wheel drive
Launch: Ramp
Skill Level: Hang 2
Location: near Sardis, B.C.
Nearest City: 1 hour from Vancouver

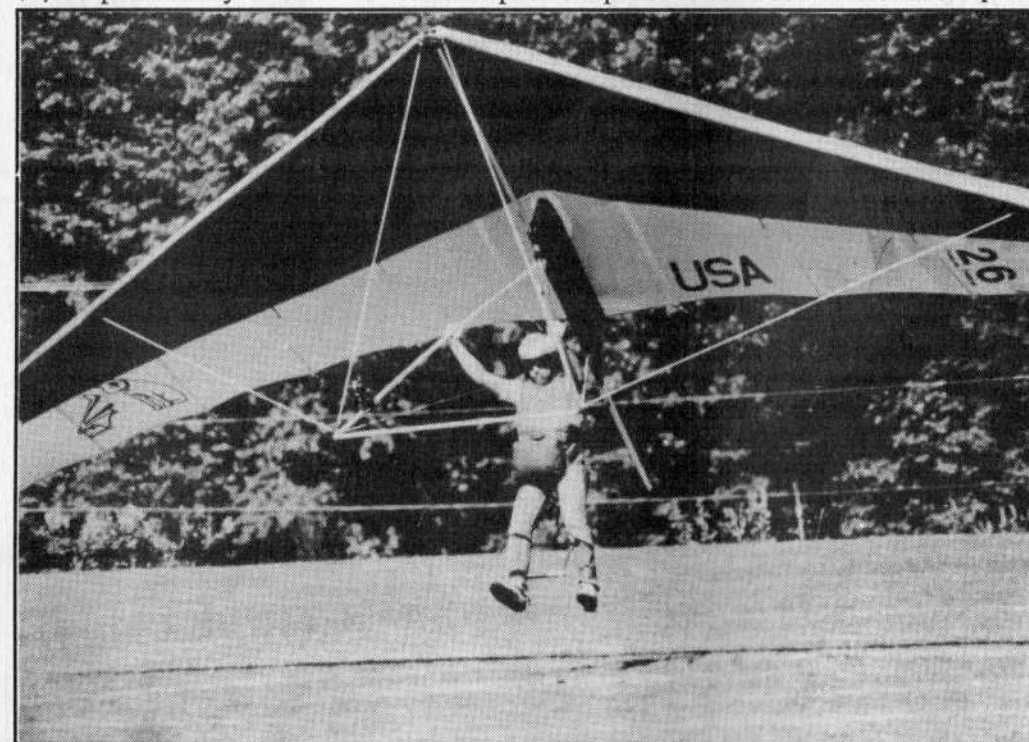


PICTURE PERFECT CONTEST

More than 50 competitors, including pilots from Australia and Japan are expected to vie for top honors and about \$7,000 prize money at the 1986 Grouse

mountains. Pilots log their progress on the course by taking in-flight photos at three camera turn-points. At each, the pilot is expected to use a 35mm automatic

meet and are close to eliminating human error. This will be the largest competition in North America using the camera turn-point format."



Upside-down Action

The aerobatics event at the Grouse Mountain Invitational will also rely on stored images to help sort out any protests and to provide for the future training of judges. Contestants will be videotaped as they perform.

At the speeds competitors fly (about 30 mph air speed), says Andrew Morin, "You need the ability to slow down the action so you can see how good the form really is. The more video camera angles you have, the better you can accurately judge style and form."

There could be as many as four cameras tracking the competition including one airborne on a glider, one on the mountainside at about 2500 feet altitude and two in the landing area. As in the past, there will be four judges assessing

Mountain World Invitational Hang Gliding Championships just outside Vancouver, British Columbia.

The competition is open to men and women and runs from July 23 to July 27. Organizers expect between 30,000 and 40,000 spectators to attend the five day competition, sponsored again this year by Kodak Canada Inc.

Local Stars, New Tasks

The fans will be looking for outstanding performance from Canada's world record holder Randy Haney—who recently flew 202 miles during a flight of more than nine hours which originated near Invermere, British Columbia. Enthusiasts will also notice a variety of technical innovations improving the way the competition is organized.

For example, this year's pylon race is spread over a 3.5 mile course that takes pilots on a circuit of three separate

camera to verify successful negotiation of the pylons marking the course.

The winner will cover the greatest distance and therefore have the most turn-point photos on his or her roll of film. Should a tie occur, the time displayed on the time pylon will enable a single winner to be declared—fastest person wins. Pilots carry their cameras in pockets on the control bar of the glider and all photos are taken with the camera hand held.

"We've improved the course making it larger," says Meet Director Harvey Blackmore. "The contest should be more demanding and more exciting." The peaks of Dam and Frohm Mountains at about 4,000 ft altitude, plus the roof of the Grouse Mountain Chalet form the axis of the turnpoints.

The logistics of hosting the competition are simplified says competition coordinator Andrew Morin. "We require less manpower to run the

scores in the landing area.

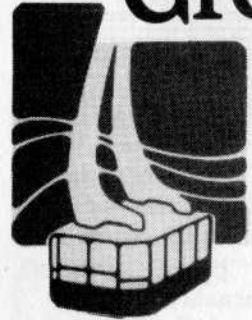
The winner of the aerobatics event will be \$1000 richer as will the winner of the pylon race. The winner of the women's pylon event receives \$750.

Says Harvey Blackmore, "We run a tight, well organized championship. We are committed to the idea of the contest."

Kodak Canada has been a long time supporter of world class sports events such as the Grouse Mountain World Invitational Hang Gliding Championships. At the 1976 Olympic Games in Montreal and the 1983 World University Games in Edmonton, Kodak was present. The company assisted both the organizers of the events and the photographers and filmmakers who covered the competition. Kodak will be a sponsor of the 1988 Winter and Summer Olympic Games.

—by Terry Holmes

Grouse Mountain



Diversions & More

Only fifteen minutes from downtown Vancouver and the Expo 86 convention site, Grouse Mountain has grown into today's answer to the year-round quest for a diversified facility. Catering to tourists and locals alike, Grouse offers winter skiing, a host of summer activities along with a selection of dining options throughout the year.

A brief history of Grouse

The attraction to this mountain dates back to 1894. In that year, a party of hikers ventured up its slopes, and upon shooting a Blue Grouse, decided name it "Grouse Mountain."

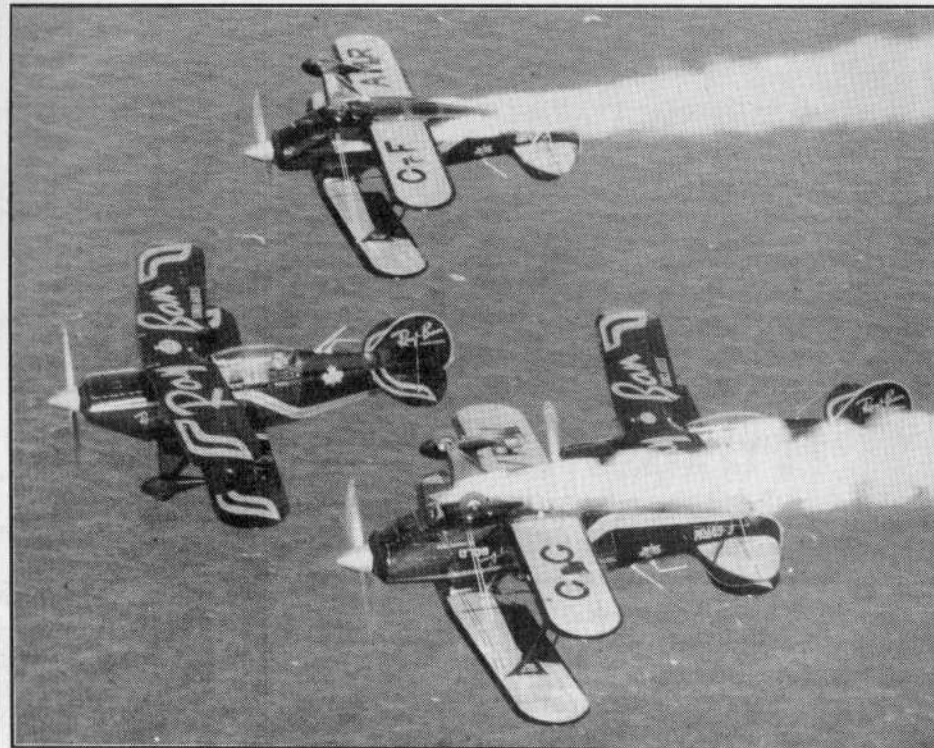
By the 1920s, when motor touring became a favorite pastime, Vancouver industrialist W.C. Shelley foresaw the attraction of the mountain's wilderness setting and panoramic view. By 1924, at a cost of one million dollars, he completed a paved tollroad (Mountain Highway) to the top of Grouse and the original log chalet. Shelley's enterprise failed, however, in the Great Depression of the early 30s.

The late 40s and mid-60s brought about major changes at Grouse Mountain with the installation of North America's first two-person chairlift (Village Chair) in 1949 and then, in 1965, the completion of Canada's largest aerial tramway (known today as the Blue Skyride). Both additions provided easier public access to the mountaintop.

Skiing and super tramways

By 1975, Grouse was fast becoming a famous Vancouver landmark. Ski lifts, lights for night skiing, snowmaking, the rental shop, a new chalet, and the introduction of a ski school—which became Canada's largest—developed to handle customer's needs. The following year construction began on the

Superskyride, which would more than double Grouse Mountain's up-hill capacity. The 100-person cable car became known as Canada's largest and most



modern tramway, offering a thrilling ride capable of whisking passengers to an elevation of 3,700 feet in a mere four minutes.

A Heaven outside

In the years to follow, more emphasis was placed on Grouse's summer season, catering to the out-of-doors lover. Complimenting the natural beauty and panoramic view, Grouse added attractions such as the outdoor barbecue and beer garden, nature trails, pony rides, outdoor concerts, the Mountain Coaster ride, and an adventure playground. Those who don't feel high enough on top of Grouse

Mountain can take a helicopter tour to view the glaciated mountain peaks.

Sea Festival '86

In 1986, Grouse Mountain Resorts is working hand-in-glove with the Vancouver Sea Festival. Very much a part of Vancouver's summer, the Sea Festival offers excitement and entertainment galore along English Bay.

This year the Vancouver Sea Festival presents the International Air Show. The sky will be filled with thrills, excitement, noise, smoke, and expertise as a lineup of

several world-renowned aerobatic acts take to the sky. And it's free! The Air Show will be presented to the public on:

Wednesday, July 23 at 7:30 pm
Friday, July 25 at 7:30 pm, and
Sunday, July 27 at 1:00 pm

Recommended locations to view the Air Show are Sunset Beach, English Bay, Vanier Bay, and from the Burrard Street Bridge.

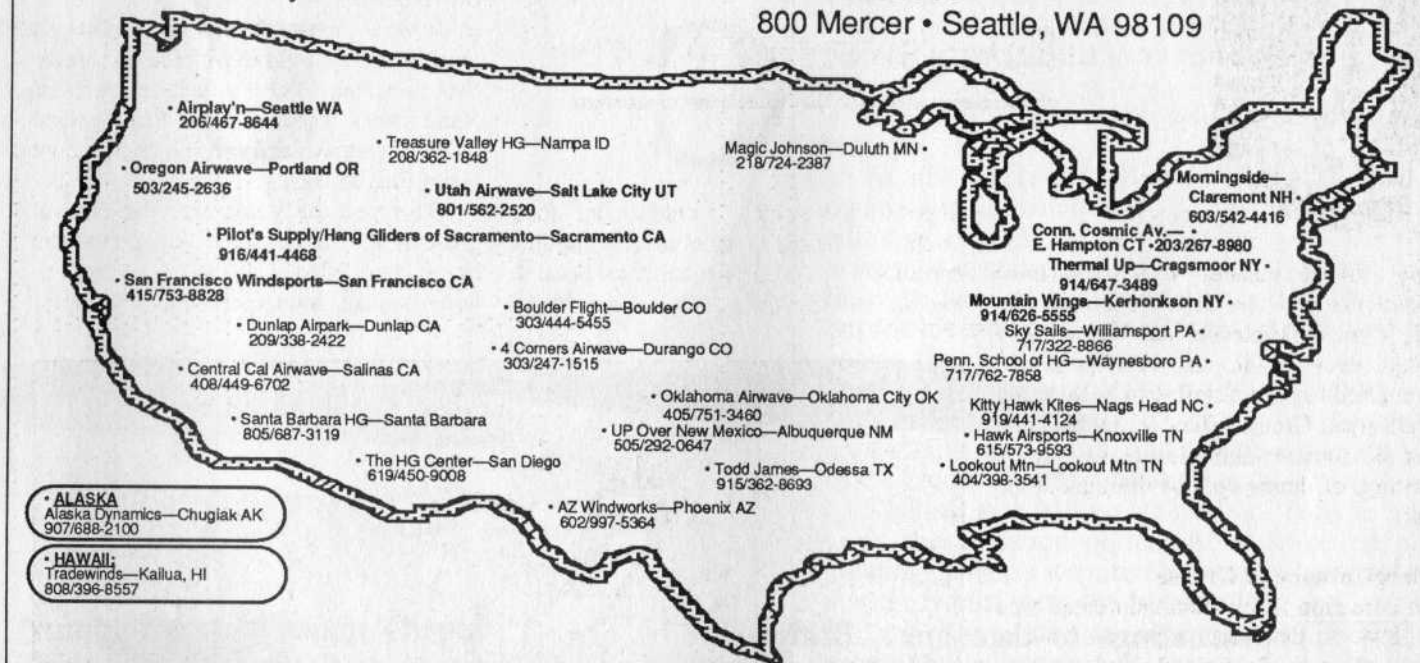
The attraction—whether it be in the form of scenic wonder, outdoor recreation, mountain dining, or the ultra-modern aerial tramway—still is very much alive on Grouse Mountain today.

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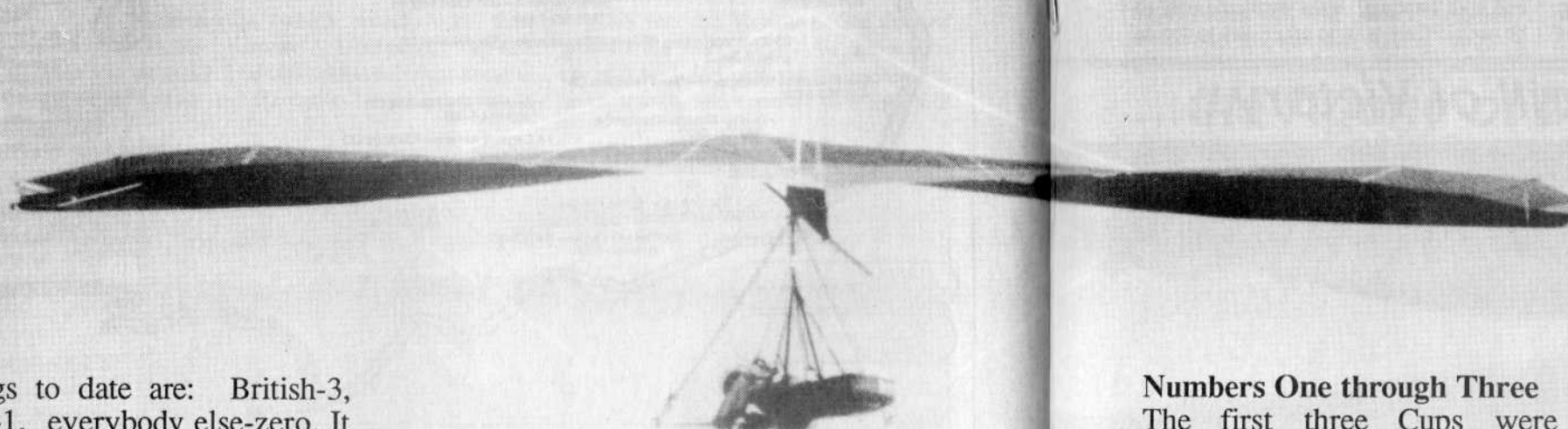


Photo by Trevor Florence

The standings to date are: British-3, Americans-1, everybody else-zero. It says a lot about the British, and not very much for any other teams. However, four matches are hardly enough on which to judge.

The above reference is to the American Cup, and those are the results of Cups one through four.

In 1978 a company called Sport Aeronautics organized and presented an entirely new hang gliding contest format, with the first actual contest taking place that same year. Chattanooga, Tennessee was the first battleground, as the organizers called that southern city their home. Principal figures

were Tracy Knauss, founding publisher of what was then called *Glider Rider*, and Dave Murchison, proprietor of a prominent hang glider school called Lookout Mountain Flight Park. These two men put an immense amount of energy into the American Cup concept, and were rewarded by superb response from the hang glider community throughout the world.

Numbers One through Three

The first three Cups were all held in Chattanooga. This eastern capital of American hang gliding offered several sites, easy access to those sites, and another important ingredient: nearby population.

Prior to the '78 Cup, hang gliding contests were organized largely for the hang gliding enthusiasts. While the public had always been welcomed, and while small crowds had been present at other major meets, few had ever tried to specifically address the requirements of spectators like Knauss and Murchison did. No one before achieved it as professionally. Spectators were not their only target, however.

Another new feature was the specific invitation of foreign pilots, and the fact that those foreign pilots were to fly in national teams against those from the other countries. In that first Cup only four countries were represented: Canada, Australia, Britain, and the USA. Later it would grow to six national teams, a number that proved optimal.

That first Cup was born in an unusual way perhaps.

Knauss had been speaking to Brian Milton, at that time his counterpart in England. Milton was editor of the British Hang Gliding Association's *Wings!* magazine, and was himself a contest enthusiast. He was known, not as a pilot though, but for his strong talents in organization used to coach the British teams. His success in this arena was considerable, as mentioned above... they have proven to be the world's most consistent competitors, and Milton earned a lot of the credit in those formative years.

Knauss and Milton each felt "their boys" were the superior pilots. After some verbal jousting, Knauss wagered a friendly bet, saying that the yanks were the better pilots, and he put \$5 on the line as commitment. Milton vehemently disagreed of course, took the bet, and the stage was set.

But how to decide who was right?

They'd just have to fly against one another and see. The Cup was born.

From there, a great deal of time, money, and work was put into the planning of the American Cup, and it was achieved with a panache unmatched by any hang gliding contest series to this date.

Steak and sizzle both

The Cup established itself as much more than a valid contest to test skills of pilots (and settle that now-famous five dollar wager). The pilots planned and flew well. The contest was accepted as valid, though the tasks of the time seem dated by modern standards.

The public, though, was an important part of the event and in this way, the American Cup truly distinguished itself.

Tents were raised on the grounds of the landing field. Advertising and promotion were employed to draw crowds. Signs were erected to direct them. Personnel covered the area to park cars, serve refreshments, announce the action, entertain during slow moments for the contest, and generally see to the spectators' enjoyment.

It was a genuine outdoor spectacle. It was well thought out and smoothly achieved. It set a standard for such endeavors within the sport.

Money, money, money

Such professionalism costs money though. Lots of it. Knauss and crew went into debt with the first event, accepting that situation as necessary to build something of lasting value.

But after number two in 1979, and number three in 1980 failed to reach the breakeven point, the lack of major sponsorship began to threaten the future of the American Cup. Sport Aeronautics could only afford to fund the event these first three years, and at that, carried the debt well beyond the '80 Cup.

Some good news came of it.

Knauss was finally rewarded with an American victory. In 1980 a company called Ultralite Products released their Comet glider, which was flown by every member of the U.S. team. It was very advanced for the time—heralding a new generation of hang gliders with more of the airframe buried in the sail for added aerodynamic efficiency. The British team as well as the others, had nothing to compare. The U.S. won convincingly, and while Sport Aeronautics serviced the debt they created, at least they could savor the taste of success in winning the last Cup held in the United States.

Can't sit still

The British were beaten fair and square. After two unquestioned wins of their own in '78 and '79, they had to live with the defeat, with no prospect of a rematch due to the financial woes.

The British mentality did not deal well with this predicament.

Wheels were set in motion to host the Cup themselves. Knauss was more than willing. Though he could not accept the burden again himself, the Cup had started something good. Everyone embraced the idea of its resurrection, especially the English. But the problems that plagued those first three Cups, fouled things again. The logistics of inviting several countries to an international team meet caused an off, then on, then off, and finally on again scenario that left the outcome in doubt for weeks.

Finally, it came together.

Writing in this publication (Sept/Oct 1982, pgs 48-52), British correspondent Noel Whittall described the 1982 American Cup...

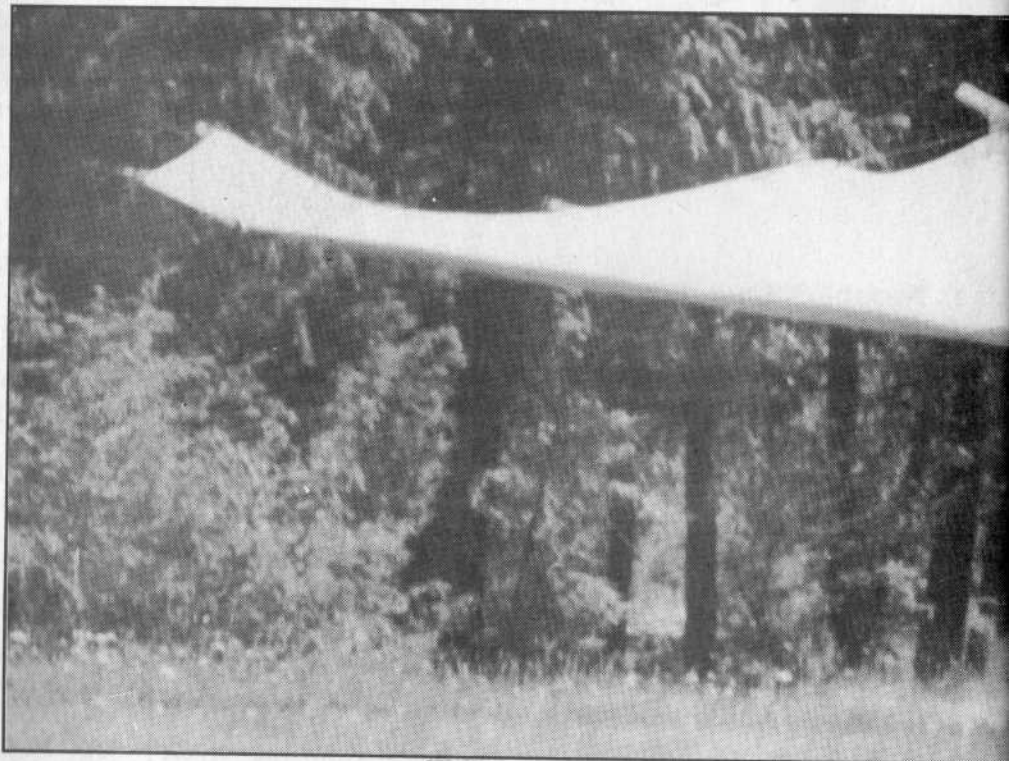
The Dales American Cup

"That the British won back the American Cup by a narrow margin is now history. That the weather was typically unobliging as far as hang gliding contest go, permitting flying on only five days out of eight is probably unremarkable. (In fact, if the meet had been scheduled one week later, not a single day could have been flown!) The main lesson of the week seems to be that the world's top pilots can adapt to different conditions very fast

slavishly to coach Brian Milton's extremely unobliging one-on-one marking tactics." [Milton had been asked to coach the Americans.] "Maybe even more surprising was the way certain British fliers allowed themselves to be seen to be rattled by such marking.

"The Dales American Cup was conceived at the outset as a cross country competition, with old fashioned 'duration and spot [landing]' tasks available only to be used if there was no other way to decide

"The Thrill of Victory..."



indeed.

"The tasks were all variations on the cross country theme, either free distance or races to goal, and for various reasons no pilot actually achieved the goals when set. I write 'for various reasons,' rather than 'because of conditions' because sometimes it appeared that cautious team tactics had the effect of keeping fliers on the ground when good cross country distances were possible.

"The performance of the USA team during practice, with flight of 50+ miles from our little Yorkshire hills proved that Stu Smith and Co. had completely adapted to local flying. It seems a pity that they then permitted themselves to adhere

a winner for lack of soaring days. In the event the first five days permitted cross country flights, and although goals were set twice, they were never attained, so the tasks always effectively ended up as 'free distance.'"

The BC American Cup

Now we arrive at 1986. After a four year hiatus, organizers Morin and Bateman of Vancouver, BC, have gained provincial government funding to help defray some of the many expenses.

They bought the rights to the Cup from a still-willing Knauss. The charge: U.S.\$1.00.

Six teams have been invited from

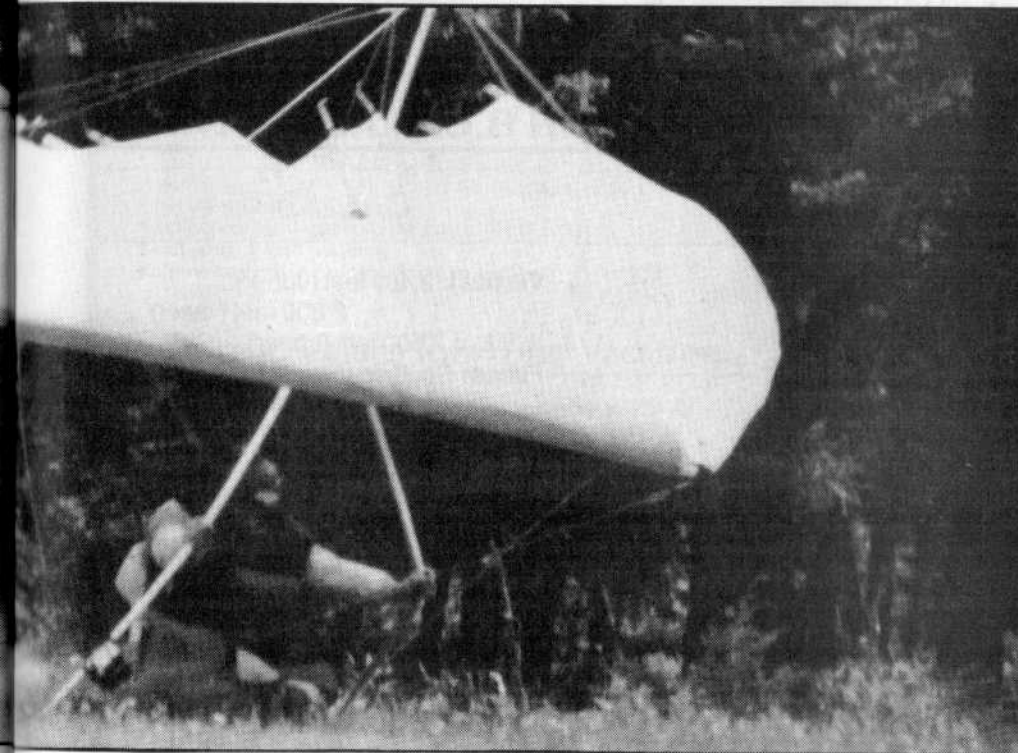
America, Britain, Australia, Canada of course, and two other sources, one new, one repeat. Germany is making its first showing at the American Cup. Brazil participated on the latter of the U.S. contests.

America, Britain, Canada, and Australia have participated in every Cup. Brazil has been involved, as had Switzerland, and France. But the first for the Germans will add interest, especially when one knows this country holds a

Bateman.

They will make the courses out-and-return ones as much as practicable. This means the pilots leave a launch point, race against the clock and each other out to some distant point (marked on the ground by a identifiable marking or fixture, called a "pylon"). There they will photograph the point, proving their arrival—it will be "coded" in some manner unknown to the pilots till they see it—and race back to a finish at a designated landing field. These

...the Agony of Defeat"



special title. This nation can probably count more participants than any other in the world (it has in excess of 10,000 pilots, very high figures considering the world population of hang glider pilots numbers approximately 70-80,000).

The '86 Cup will fly from sites in the beautiful Canadian Rocky Mountains, primarily using a mountain site called Mt. Swansea. Others will be employed as needed to suit changing weather conditions.

The tasks will focus exclusively on cross country flying, as has become the case throughout the discipline of hang gliding competitions. But one change has been instituted by Mssrs. Morin and

courses may also be triangularly shaped, but the challenge remains similar.

The purpose in using these tasks accomplishes two goals.

Firstly, the pilots are not asked to travel great distances, only to be retrieved by ground vehicle hours later. They will not be so worn out from sheer travel, the task of picking them up is not so formidable, and it is easier to contain the competition within a manageable geographical area.

Secondly, this enhances the ability of spectators and crew members to follow the action. Such events as the American Cup are not meant to purely judge pilot ability, but to involve the local population and its

visitors. When funding is accepted, this can become a prerequisite. In any case, it good for the public relations and promotion of a sport like hang gliding.

Who will win the '86 event?

The victory will be sweet, to be sure. And the winner may hold this title for years, should no new organizer wish to tackle the complex task of putting on American Cup No. Six.

Who will win, however, is anybody's guess.

The Canadians have fared well in the Cups, though they have not won. Canada has some top world class pilots. Plus they compete on what is sometimes called "home turf." The weather will be familiar to them, and reading the soaring conditions is a crucially important part of winning.

The British may never be counted out. Over the years, their system for selecting the best pilots for any given meet has been unequalled by any other team. Their pilots are among the best in the world, as evidenced by their consistent wins or high placement at virtually every major world-class meet. Plus they have gliders that are competitive with the best. Add to that three wins out of four, and you find an extra psychological edge, which though intangible, is nevertheless very real.

Americans have proven they can pull victory right from the jaws of defeat, having turned situations around many times in past major meets. Like the Canadians, they have less structure to their team makeup, but this is not always a disadvantage. Their equipment is among the world's finest, and the Yanks can not be counted out till the last pilot has landed on the last day of the meet.

Australia is blessed with some of the most successful world-class pilots of any nation. Plus, the Australians have a great wealth of experience flying in other locations. They are closer to the Americans and Canadians in their team structure, but possess a form of discipline that sets them apart, and perhaps aids them in consistent flying that rivals or even exceeds the British.

The Germans and Brazilians are both dark horses in this year's Cup. The Germans are known around the globe for their great sense of industry and determination. Their vast pilot population

gives them more choices from which to select their finest pilots. In short, discounting their chances would be very risky business.

The Brazilians pilots who compete on a world-class level have proven they can win under the most trying of circumstances. And they have what is sometimes called a "go for it attitude" that can carry them forward like an avalanche.

In the last analysis before the meet begins in early August, determining the favored team is something suited best to the likes of a Las Vegas Jimmy the Greek character. Out of historical record alone, the British get the head nod. But don't bet more than \$5 on it.

August 9th will be the date a new American Cup team is crowned victorious. Until then it's anybody's guess. One thing is for sure... the 5th running of the American Cup is a welcome return of interesting international team contests, and everyone in the sport should raise a Molson to the Canucks for hosting this edition.

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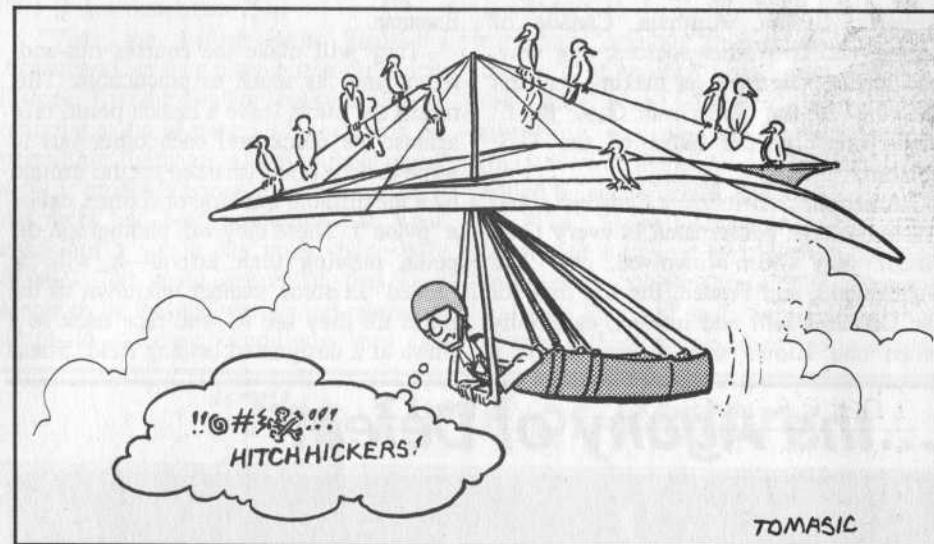


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RASPBERRY

Vertical: 2,400 feet
A.S.L.: 7,600 feet
Faces: Southwest
Flyable: West to South
Access: 4 wheel drive
Skill Level: Hang 2
Location: Alberta
Nearest City: 2 hours south of Calgary in Kananaskis Country
Amenities: Camping 1 mile from base of mountain
Remarks: Site of Western Canadian Championships for 1986

GOLDEN

Vertical: 2,800 feet (lower), 3,800 feet (middle), 6,600 feet (upper)
A.S.L.: 9,400 feet (upper)
Faces: Northwest to Southwest
Access: 4 wheel drive to two lower launches; Helicopter to the upper launch
Location: British Columbia
Nearest City: 1 hour north of Invermere (site of the American Cup) Beaverfoot Range
Amenities: Full accommodations in town site of Golden
Remarks: Golden is now the site of the official World Distance Record (pending FAI approval).

CANMORE

Vertical: 2,400 feet (upper), 2,800 feet (lower)
A.S.L.: 7,600 feet (upper)
Faces: Southsouthwest (upper), Westsouthwest (lower)
Access: Helicopter
Skill Level: Hang 2, with supervision
Location: Alberta
Nearest City: 1 hour west of Calgary; 15 minutes east of Banff Fairholm Range
Amenities: Full accommodations in Canmore

SWANSEA

Vertical: 2,800 feet (upper), 1,400 feet (lower)
A.S.L.: 5,600 feet (upper)
Faces: Northwest to South
Access: 2 wheel drive; 300 foot walk to both launches via switchback trail
Skill Level: Hang 3
Location: British Columbia
Nearest City: Invermere
Amenities: Full accommodations at many resorts in Invermere
Remarks: Site of American Cup

—Compiled by Rod Porteus

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For pilots waiting on improving conditions, or for those family members or crew members who accompany the pilots, the Windermere Valley has lots to occupy the time in a most pleasant atmosphere.

Where to eat

An abundance of good dining can be had in this recreational area, including several restaurants at each of the major resorts. For pilots participating in the American Cup and those who accompany them or come for the action, **WHOLE AIR** strongly encourages the patronizing of those advertisers that helped make this program possible. These establishments are listed below (all telephone area codes are 604):

- Alpine Meats & Deli/Invermere (342-9661)
- Bud's Social Club and Boogie Parlour/Invermere (342-6769)
- Chimi's Mexican Restaurant/Windermere (342-9553)
- Invermere Inn—Greenery & Raffles Bar/Invermere (342-9246)
- Lakeside Inn/Athalmer (342-6711)
- Lodge Dining Room & Coffee Shop/Fairmont Hot Springs (345-6311)
- The Meeting Place/Invermere (342-6665)
- Paradise & Starbird Restaurants/Panorama Resort (342-6941)
- Skookum Inn/Invermere (342-6293)
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The eight-mile-long lake fed by the mighty Columbia River offers an excellent resource to ply the winds in a sailing craft. We encourage those with a

desire to view this pristine valley from a wind-powered craft to seek the services of the Beam Reach Sailing School. Beam Reach can cope with novice sailors and those possessing more advanced skills as well. Call them for reservations and more information at 604/342-2121.

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>>> Lots more recreation of a wide variety can be found in the Valley, and we

Continued on Page 30



Photo by Trevor Florence

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Invermere Diversions

Continued from Page 28

list just a few below with their locations.

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Hot pools (96-106 degrees) are one of the main attractions of this part of the Canadian Rockies, and Fairmont offers some of the finest in a complex of three pools. They are open daily year-round from 8 am to 10 pm. Single entry and day passes are available with rates of \$3 per adult. Poolside snacks and gifts are also provided to make your visit more enjoyable.

Fairmont also offers a championship golf course and superb hiking trails in natural splendor. Call them for more information at 604/345-6311.

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Invermere is surrounded by major resort enterprises, and among the finest is Canada's only five-star facility, Panorama Alpine Resort. The advance choice of many American Cup participants, Alpine offers a variety of good times.

Among the choices are horseback riding in this truly beautiful area, river rafting with the Glacier Raft Company,

and bicycle tours. Their lake location makes watersports possible, and of course, you won't want to miss the area specialty... hot pools.

For reservations and more information, call 604/342-6941.

Other accommodations

The Invermere Inn offers in-town rooming in a brand new hotel. If the big resorts don't appeal to you, very likely the Invermere Inn is exactly what you're seeking.

The Invermere Inn has the customary abundance of activities including skiing, sailing, surfing, hiking golf, and hot pools. Call them about reservations and information at 604/342-9246.

Photographic supplies and processing

For pilots requiring turn point photo developing, and for general film supplies and camera equipment, turn to Burkhart Photo in Invermere. They'll be glad to assist in all things photographic. Call them for more information at 604/342-9810.

Groceries and other provisions

If you're one of the international competitors, covering this scenic part of Canada by air, or one of the many

onlookers or crew members, you'll need cooler supplies and other picnic items. You can pick up whatever you like from the Thriftway Supermarket in Windermere. If you want to check supplies on hand or their location, feel free to call them at 604/342-9975.

Local Mementos

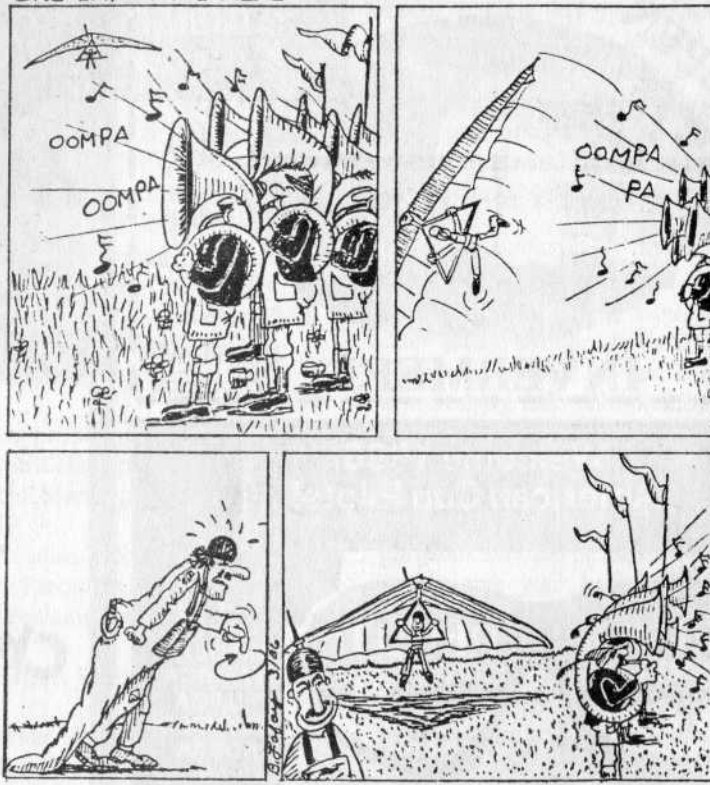
A trip to any spot worth remembering means you need something unique to that area. One of the best choices could be an "Invermere Original," the Mosquito House from Mom's Enterprises. You can't buy from Mom herself—they're distributors—but virtually every store in the area carries these cute gift items. Someone back home will appreciate it if you remember them.

Special Mention

Deserving of a specific note in this first-ever hang gliding program for the Windermere Valley is the Lakeside Inn's annual hang gliding event. The contest celebrates its 10th anniversary in 1986, qualifying as one of the sport's older happenings. The Inn also provides one of the most popular gathering spots in the Invermere area.

—Compiled by Dan Johnson

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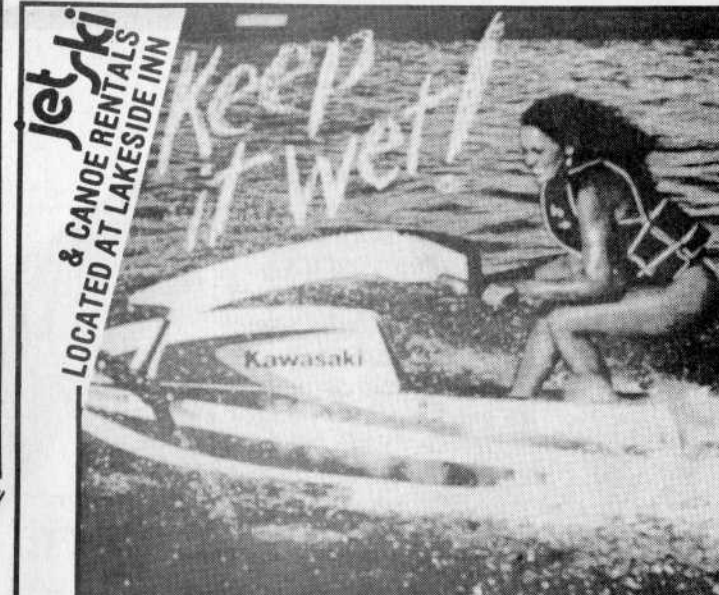
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Pilot reports which glow with delight over a new craft are wonderfully supportive of the quality work done by today's manufacturers. And it's true, the companies that have survived the last decade can indeed build some beautiful machines. Critical reviews offering substance can be difficult to achieve.

However, no machine is perfect for everyone. Some perform extremely well, but handle with difficulty. Others land well, but do not offer the optimum sink rate performance. Some are harder to assemble, or take longer than the average. Others rig quickly, but may be heavy.

All design is compromise. The designer chooses a desired goal and moves to that end, necessarily sacrificing some features to maximize benefits in other areas.

The task of magazine articles about these aircraft is not to criticize the designer or company, or the path chosen to reach the goal. Rather the job involves picking out the pertinent details that might aid would-be purchasers in the search for those qualities that will meet their needs and desires in a glider.

Thereby, any report should contain both positives and negatives. How well this is done depends on a great many factors. But one certainty exists. The reader ultimately makes the purchase decision, and should use all available information in the process. All that we at **WHOLE AIR** can do is provide our response to new models.

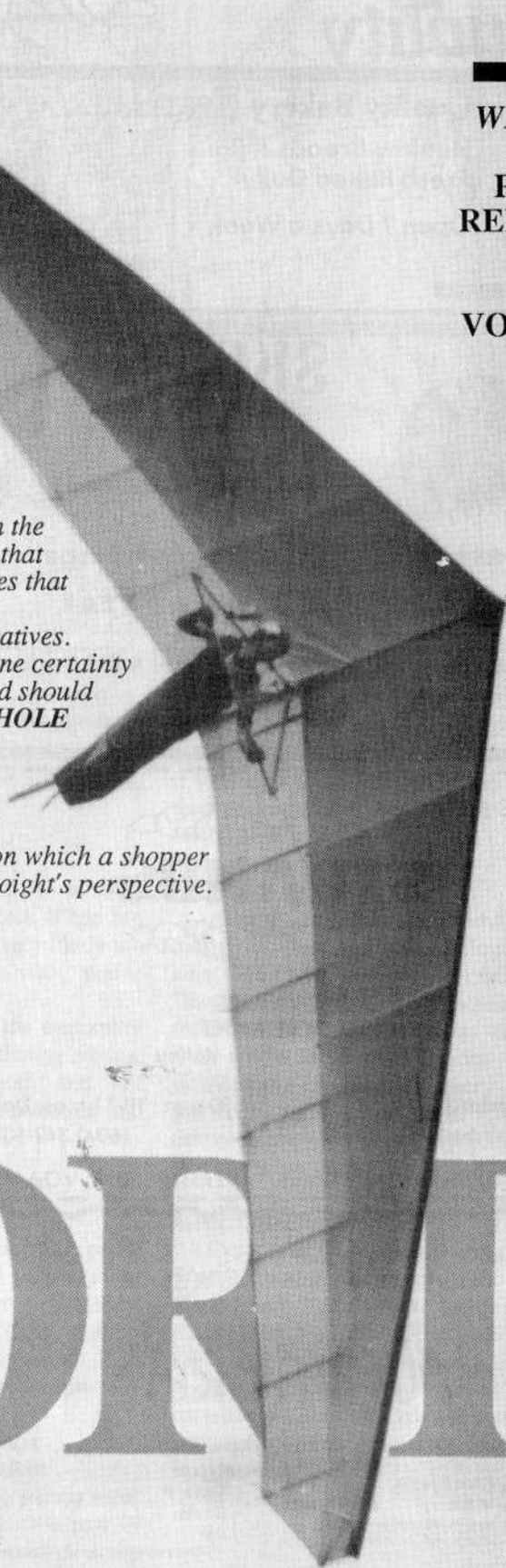
Fortunately, we can take pleasure in doing just that.

With the above in mind, **WHOLE AIR** welcomes a new contributor, Paul Voight. The following pilot report on Wills' new Sport attempts to transmit some of that valued information which a shopper can use to help make the decision about what to buy. Enjoy Voight's perspective.

**WHOLE
AIR
PILOT
REPORT
by
PAUL
VOIGHT**

WILLS WING'S

S P O R T



We've all read too many "rave review" glider reports, and as a result, the glider buyer's decision has in turn become more difficult. So it seemed logical to attempt to objectively bring out all the points—negative and positive—of Wills Wing's new Sport model. This might give the reader more information on which to make that spending decision.

Unfortunately (given said intentions), the Wills Wing Sport is a glider that's hard to fault. I came up with only a couple of quirky little complaints that I'll include to give the piece some balance. Overall, I am very impressed with this glider. I really expected the glider to be a loose, medium performance, optimized for handling/landing package of compromises. This is far from the case. The Sport is a very light, extremely high performance, tight glider, that exhibits handling and landing characteristics that

"I approached this evaluation with the intent to critique."

would break it. It's just a stock model that I ordered in January for use as a demo for my shop. During assembly, the first thing I noticed was how light the aft sections of the leading edges were.

We're talking feather weight. My one year old son, Ryan, picked one up and disappeared into the back yard with it. Next, I noticed that the sail

mounting at the end of the leading edges is totally different than past Wills Wing models. They've discarded the clevis bolt. A piece of flat webbing is sewn to the top and bottom of the end of the sail in a loop, and fits over the end of the leading edge into a slotted end cap. A second, longer loop is also supplied to use to pull the sail, which makes the job easier. Velcro closures ensure its security. Also, the glider offers no twist adjustability, as the slotted end plug slides onto a fixed rivet. All one needs to tune a Sport are shims...and about two minutes. No tools, no friends to



I thought went out the window when double surface gliders hit the scene.

Next I'll tell you how I came to my conclusions. But regardless of this evaluation, what you are recommended to do is take a few flights on a Sport yourself, to form your own opinion.

A Sport in time

I received the Sport for this evaluation (production #10) in the broken-down-in-half configuration. I had it shipped by air so I wouldn't have to sweat a two week wait to see if the truckers

help pull, no big muscles.

Build up

It took seven minutes to set up the Sport after the sail was mounted. Control bar set up is typical. Wing spreading... typical. The airfoil-shaped king post is rather beefy—a requirement as the main pilot suspension is attached to it. In a Wills style of the past, the kingpost base fits over a 5/16 inch protrusion.

At long last the luff lines are detachable on a Wills Wing, via a stainless sailing clip. This really pleased me, as I'm sure it will others. Of course there are the same old key-hole tangs; loved by

some, not by all.

The Sport employs eight ribs per side. Tensioning of the sail is HP-style, except the factory has added a molded jam cleat to hold down the tension while installing the sweep-wire bolt. Add a nose batten, nose cone, two bottom surface ribs per side, and she's ready to fly.

Overview

The gaggle of pilots who've gotten word that "it" is here

stand back and take a look at it. Looks like an HP with a king post suspension system, and camera/inspection zippers at the leading edge/crossbar junctions. So what's the difference besides the "exotic" tubing used in this design?

Checking the ribs to a set of HP ribs we found the airfoil is not as tall, and the maximum camber point is much further aft, giving a less blunted look. The root chord of the Sport is about two inches longer than the HP, and a little more at the tips. The real question starts becoming obvious; will the thing really turn? How can a glider that tight handle like a Harrier, which it was said to do?

A couple of East Coast rainy, nasty days have to go by before we find out...

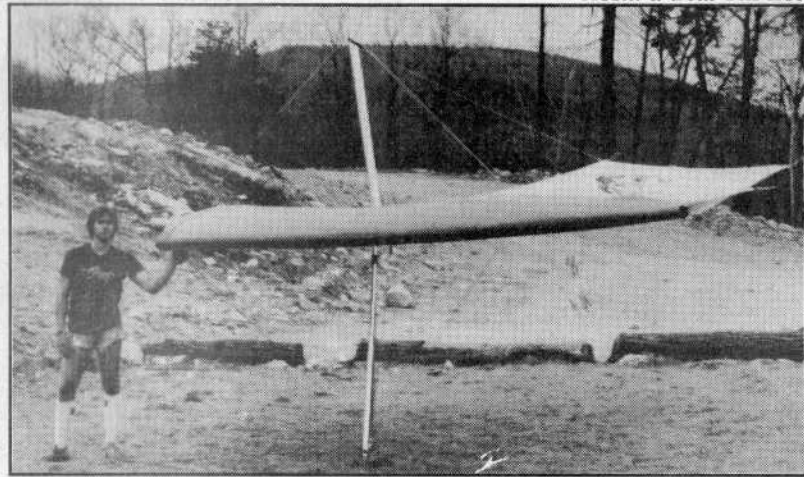
Finally a cold front comes through. I take the long ride to Ellenville's launch (four minutes from my house and shop). It's blown out. We hang wait all day. The conditions

never get better, but our perception of them does, so a half hour before dark we set up and dive off.

This is the first Wills Wing I've ever flown that I didn't have to add hang loops to get the right height! Just hook into the adjustable perlon rope which is routed through the sail, to a point about five inches up on the king post, through a bushing through the king post, and back down



PAIR OF PROFILES—Viewing the Sport from these perspectives shows how similar it is to Wills' flagship, the HP. You have to look closer to see changes which differentiate the two.



All photographs supplied by article author, Paul Voight

again. A short spreader bar is used, and you hook into a 10,000 pound loop of webbing. On the Sport this is the back-up hang strap.

First impressions

The Sport boasts easy ground handling, especially given the conditions. I felt very confident in launch. I headed out into the lenticular-filled sky.

At Ellenville, we call this toilet bowl air. Up, down,

backwards, forwards, maybe you'll make it, maybe you won't.

All I could tell from the flight was that the glider wasn't slow, handles turbulence exceptionally well, and rolls quickly on demand, even with lift under a wing (like twenty feet off the deck on approach in death-air!). So much for the first flight in a Sport. I was bagged up and on my way home while the others were still pulling ribs... a treat I'm not used to since my HP has 35 ribs.

I won't bore you with the next few days activities because they were reruns.

But I finally caught a nice, thermally day. This was my first real flight in the Sport. When I launched, I decided to roll left. I instinctively high sided, and rolled right out to the right. Hmmm? It really does handle. It took me a while to calm down and top flinging myself around in my usual style. I

start playing the how-close-to-the-hill-can-I-get-and-still-feel-comfortable game. After five minutes I was making passes ten feet off the trees, pushed out, feeling confident. I got the outside wing lifting, leaned towards it, and it went back down. I haven't felt that in a long, long time.

Now we're really having fun. Great for pictures. Enough, though. Now to get high. I

went out, found a good one, and rolled into it. Instinctively I high sided and it rolled out. Going back, I rolled lightly into it then went limp. The Sport (this Sport) will continue to do endless 360s with little or no input from the pilot. Sometimes it began to overbank, and a little high siding helped me go up better.

The Sport tends to turn toward lift and thermal cores (like the Comet I used to fly), rather than bounce off or slide out like the over-tweaked gliders I've been flying. Although it took me some time to re-learn how to fly a glider that handles well, by the end of the day I could make it climb as well as anything out that day, and in the small, light stuff I could do even better than the others.

Sky games

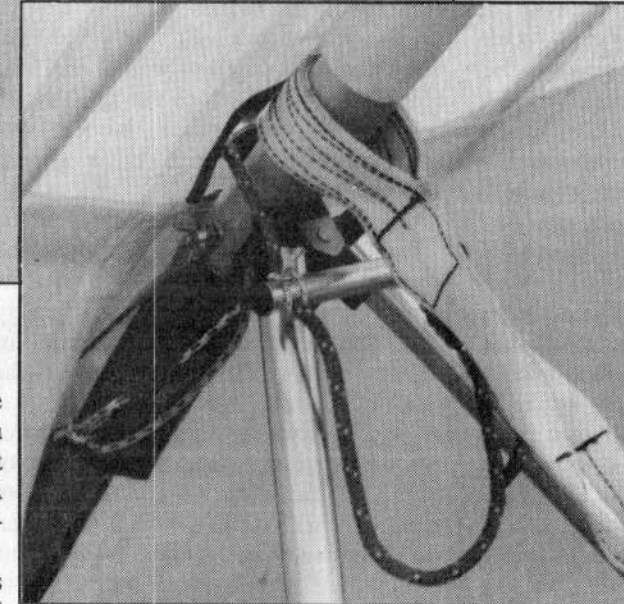
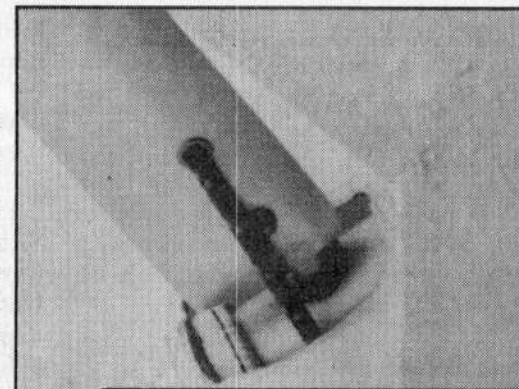
Then came the "wonder winds." Off went the last thermals, up came the constant, smooth lift and the 30 or so remaining pilots point their divers into the wind and push out. A familiar routine began... the old try-for-the-top-of-the-stack game.

I got to the top in about five minutes. This seemed too easy, so I flew out, wanged down—very different than what I'm used to in my recent glider experience—so the routine must have looked real weird. I tried it again. It took about fifteen minutes, but sure enough I was soon camped out a good thirty feet over the highest in the gaggle.

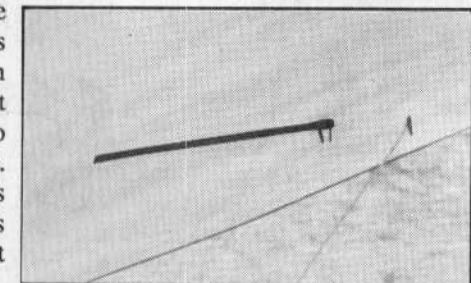
The sink rate of the Sport competes with its handling for the best feature of the glider. (More on that later.)

The sun was setting. I was four hours into that flight and I had 3,600 A.G.L. What else can I find out?

I pulled up alongside a New Jersey pilot in a Comet 2. After motioning to race, I pulled the bar back to mid-ribs. He locks his arms and we stayed even. I slowly pull back to lock my arms, and left him behind and below. Next, a friend in a Magic with a pod harness and Aerodyne helmet approached me. Both of us began a very gradual acceleration until we each had our arms locked. The glide angles seemed the same, but I pulled away from him by perhaps three miles per hour. Not shabby at all. The Sport seems like it'll do about five miles per hour less than an HP. It also seems to keep a glide that is imperceptibly less than the HP at speeds under 35 mph, and barely perceptible less at the 35 - 50 m.p.h. range.



NEW SUSPENSION SYSTEM—Wills is using the popular "kingpost suspension" system for enhanced handling. (Below) The side access zipper permits closer inspections, and a mount location for cameras.



Sundown landing

With the sun already set, I wanged down. It was still not real positive for me because it just acts differently. I set up for landing. The local lake is glassed over so I sped in to see how long I could get it to fly in ground effect.

The answer is a long way, and I got a

powder fluff landing, on the dirt road, five feet from the barbed wire fence. You don't want to, or need to, highspeed a Sport to landing unless you're showing off and have a long landing area.

But what landing characteristics. This is the third best feature of the glider. As of this writing, this Sport has been flown by myself about thirty times, and demo flown by a dozen other pilots. The nose cone is still clean. And so ended a day that really opened my eyes, and gave my arms a break.

Contesting the Sport

I was going to tie up this report and mention a few other flying experiences. Then something happened that I just have to tell you. It's a good story. I'll keep it short.

Our Regional Qualifier just passed in late May. As luck would have it, I sold my HP to a good friend a month before the meet. Wills Wing offered to sell me a stock model, or rush me a new one. I graciously declined both offers. (I don't want my new diver rushed!)

I planned on borrowing my old wing for the meet. That plan failed as I missed a rendezvous to pick it up the night before the meet started, and its new owner flew off into the sunset for a Florida vacation. So I packed up the Sport, spare downtubes and arrow shafts, and my new Aerodyne helmet and headed to upstate New York.

Twenty-nine pilots from New York, New Jersey, Pennsylvania, and Ontario, Canada entered the meet; among them Dennis Pagen, Mark Bourbonnais (of Canadian and American X-C fame) and Marty Beckenback, to name a few. I was

looking at a field of HPs, Sensor 510Bs, Magics, Attack Ducks and gliders of that type.

The first weekend we flew only two rounds. I won both of mine, which made me feel good.

For the record, I put one 3/16 inch shim in each leading edge and added a 7/8 inch base tube on the glider but all else was stock. My glider got lots of attention because no one had seen one yet, including a handful of Canadians who had already ordered sight unseen! I also enjoyed the fact that I could walk my gear in and could set up half an hour before anyone else. (Sitting in the shade was pleasant indeed; it was brutally hot both weekends). On the second weekend we got six more rounds. I lost my first one that weekend when I got drilled by conditions. But from then on I kept winning.

The sink rate of my glider was unmatched at that meet. The light to medium thermals were close to the hill, and I felt I had an advantage in my ability to get close, safely. In races, the glider held its own very well, and by not flying too fast on several occasions, I was able to arrive at the pylons high enough to cross them while my opponents had to take time to work lift. The Sport requires a different strategy, but is at no disadvantage

in many conditions.

When it was all over, I was the only one with a 7 & 1 win-loss record. I had won the meet. I still can't believe it. It really brings out the question: which is more effective, an extremely high performance hang glider that is difficult to fly, or a "just" high performance wing which is easy to fly? In this meet the answer was demonstrated.

Not all roses and trophies Now for the bad stuff.

First the glider's weight. It weighs just what it was supposed to weigh, and feels like it in the bag. Once set up, though, because of its tail heaviness, it doesn't feel ten pounds lighter than other gliders. Maybe only five?

Next, the suspension line bushing through the king post had sharp edges, and began to fray the rope in less than ten hours. I cut the rope, took strips of emery cloth and ran them through the hole for fifteen minutes and that solved the problem.

Wills has put protective booties everywhere inside this glider. Eight of them on the crossbar. Mine were made of a black neoprene like material that when wet, bled badly onto the sail. They don't use that stuff anymore I'm told. I had to

spend almost a whole day taking them off, laundering them, and re-installing them.

The good news was that the glider was cake to work on... it was the laundering three times that took time.

Last but not least (actually the most)... the price. As a dealer it sure is hard to pry \$2,600 out of the pockets of people who drive cars worth \$500. I think the glider is worth it, but that doesn't always help. I'm told by a real good source, though, that 6061-T6 Sports are on the test vehicle as I write, and that people with less money can have heavier Sports sometime in the future. The savings should amount to couple hundred dollars. Also per that phone call... a smaller Sport first, then maybe a big one could be on the way. Plus, I understand HPs now have the king post hang system. Hmmm?

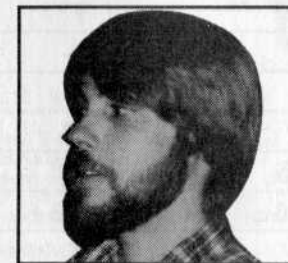
Last round

Back to the evaluation, it's time for closing statements. Then you can peruse the glider specifications and the table of grades I gave this glider (see page 38).

The glider has done nothing but impress me. I think that it represents the first successful attempt by anyone in the hang gliding industry to manufacture a truly high performance glider that also handles and lands well. There are two

American gliders that slightly out-perform the Sport in straight flight (probably) if you have the muscle and time to get them to turn. If you fly three times a week, at least an hour per flight, you might be sharp enough for one of them. If you're one of the other pilots out there, and you want the highest effective performance I've seen, the Sport will represent an investment you should never regret. A 96 page owner's manual reveals Wills' thoroughness in creating the Sport, and helps justify the outlay of your hard-earned funds.

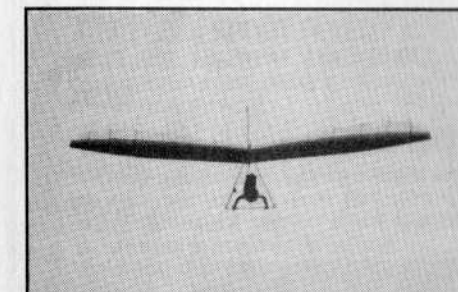
But as I said in the beginning, test drive one yourself... don't listen to me. I'm still euphoric on that drug called victory.



Paul Voight, 30, has been flying for fifteen years. He has been a hang gliding instructor in New York since 1980 and flew in the 1981, 1982, and 1983 U.S. Nationals, and placed first in the Region 12 Regionals in 1982, 1983, 1985, and 1986 (second in 1984 to one of his own students).

Presently, he owns and operates a full service shop called Fly High Hang Gliding, one hour north of New York City, in Pine Bush, N.Y., and is president of the Southern New York Hang Glider Pilots Association for the third year in a row.

He holds the following appointments: Master rating, Advanced Instructor, USHGA Examiner, Observer, USUF Examiner, and Certified Aero-tow Pilot.



Second Opinion by Karl Allmendinger

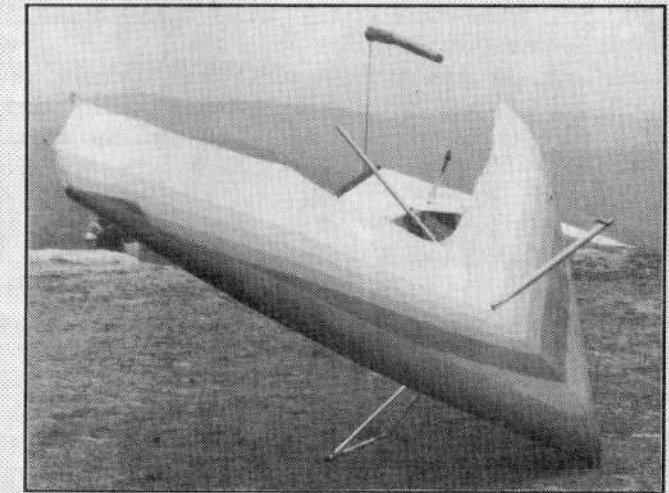
The SPORT... A Mini Report on the Newest Wills Wing

It was pouring rain as we arrived at San Francisco's Fort Funston flying site. Pacific weather offers plenty of change, however, and the forecast called for improvement, so I begin setting up my Comet 2.

By the time I was done, Wills president Rob Kells and George Whitehill of Chandelle San Francisco had arrived with two of the latest from Wills, their new Sport. By the time those gliders were set up, it had stopped raining and was blowing strong southwest. The first guy in line for one of them wanted

mounted Wills hang strap as a backup. The kingpost hang point reduced both the roll and pitch pressure so the glider took very little effort to fly. It had the same quick handling as the Harrier, and responded to every gust and bump in the air, just like the Harrier. While this was a little annoying in anything but very smooth air, it was amazingly maneuverable for a double surface glider. I have been flying my C2 with a speed rail adjusted so it has very little pitch pressure and the Sport was the first glider I have flown that has light enough pitch pressure without a speed rail.

The second Sport was a little stiffer, just enough to keep it from respinding to



to wait till it got better, so I had my chance right away.

HP Descendant

The Sport is very much like the HP, except for less aspect ratio, fewer ribs, and less weight. The frame is built of 7075 aluminum tubing rather than the established 6061. This alloy is harder, providing greater strength for given dimensions than 6061, though it has less ding resistance when used in a thinner wall thickness. It can afford good weight savings, although it is more expensive. Overall, the frame construction contributes to a static tail heaviness, so it should be easy to land in light winds.

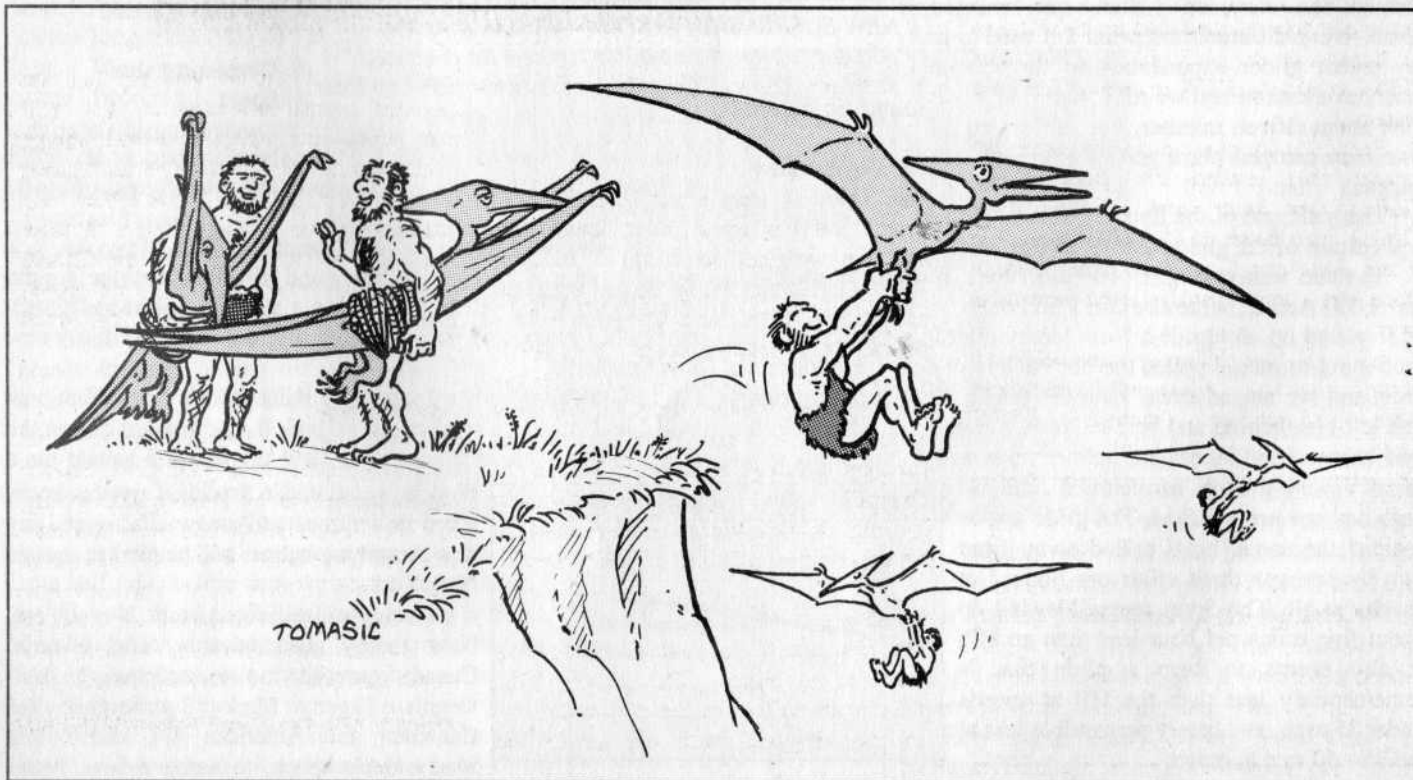
Handling

The first one I flew reminded me very much of my Harrier. The primary hang point is about four inches above the keel on the kingpost, with the usual keel

every little bump in the air, but not enough to take any effort to turn it. It was stable throughout its speed range, with no trace of yaw walk or sail flutter at maximum speed. It was the best handling glider I have flown. It took much less effort to turn than my C2 and only got a little stiffer at mush speed, rather than terminally stiff like some gliders I have flown.

Performance

On these initial short evaluations, the only way I could really judge the Sport's performance was by chasing them in my C2. The Sport had a little better sink rate and significantly better speed. The second one seemed a little better than the first, with a sink rate comparable to a Magic or HP, the same glide up to best glide speed, and not as good a high speed glide.



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0 = Lousy 10 = Exceptional

GENERAL CHARACTERISTICS	SPORT	H.P.	HARRIER	COMET I
Set-Up Time	9	6	10	7
Ground Handling	9+	8	9	5
Static Balance	8	7	9+	9-
Frame Finish	10	10	10	9
Sail-Work	10	10	10	10
FLYING CHARACTERISTICS				
Glider Weight	10	6	10	6
Handling - Low Speeds	9+	6.5	10	5
Handling - High Speeds	8+	4.5	10	8
Bar Pressure Roll	8.5	7	9	7
Bar Pressure - Pitch	9	9	9	4-
Roll Reversals (45° - 45°)	9	7	9	7
Yaw Stability	8.5	6	9	7.5
Turn Coordination	9.5	6.5	9.25	9.0
Speed Range	16 - 51	20 - 60+	16 - 46±	16 - 48±
Sink Rate Performance	10+	10	9	9
Glide at 25 MPH	10	10	8.5	8.5
Glide at 35 MPH	9.5	10	6.5	7.5
Glide at 45 MPH	9.0	10+	3	6
Landing Ease	9	8.5	7	6
Mushability	9	9	7	8
Parachutability	9	8.5	8	7.5

All references from article author Paul Voight. The "grades" for all models are based on his hook-in weight of 180 pounds.

Bar Pressure - Roll

SPECIFICATIONS

Area	167 sq. ft.
Span	33' 6"
Nose Angle	124 degrees
Aspect Ratio	6.7
Glider Weight	59 lbs.
Pilot Weight	140 - 210 lbs.
Pilot Skill	Hang III
Price	\$2,600



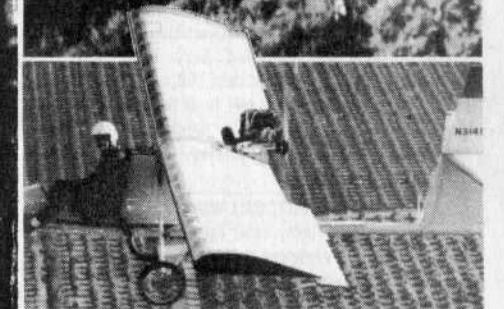
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Chris Spangenberg is a SPORT FLYER.



At 41, Chris is a helicopter pilot for the Ventura, California Fire Department. "I'm actually doing what I always wanted ... this is what I pictured myself doing when I was 10. That's what he does for a living. What's he do for fun?"

"Hang gliding in 1972. Ultralights in 1979. Homebuilts in 1982, designed and built his own. Sailplanes in 1984. Brokaw Bullet, with a turboprop, sort of the ultimate homebuilt, ya know? ... in 1986."

Chris is a self-taught craftsman who unashamedly works at his own pace. Despite years of flying experience, he spent time re-learning the very basics before his sailplane rating. Those accomplishments involved a lot of reading to gain the know-how he has today. Books, magazines, and the monthly regular: SPORT FLYER NEWSmagazine. It's the only publication available covering the wide range of sport flying news needed by a pilot such as Chris. "I guess I ultimately feel responsible for what I do. Understand what makes them fly, respect their limitations, and you can fly your whole life and not be in jeopardy."

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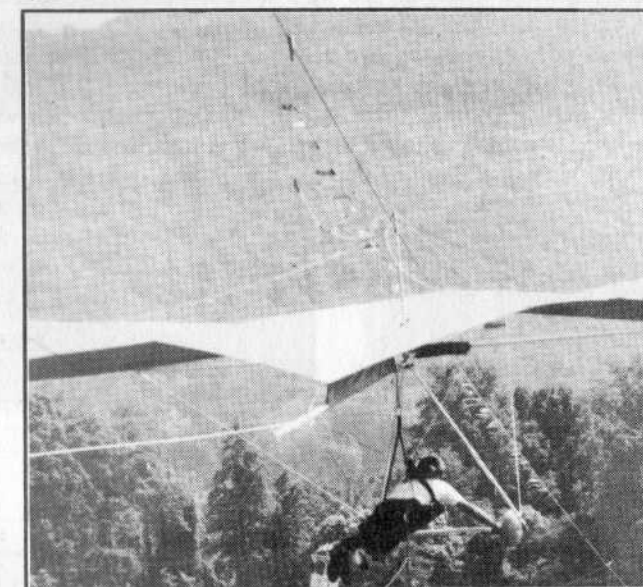
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TACOMA, WA — Unsung heroes. They're the stuff on which a lot of organizations thrive. But who knows it? Well nobody, obviously, or the heroes wouldn't be unsung. Still, they're real vital to many things that "just get done." You know the phrase... "they oughta do something about it." Frequently, "they" do. We've one hero-type we want to mention because we helped him be more unsung than necessary by our omission in the last issue of **WHOLE AIR**. It had to do with our cover photograph from the U.S. Nationals issue (our last one—June '86). We got a case of mind lock from the considerable discussions we had with **CJ Sturtevant**. Now, for those few of you in the whole country who haven't called her, CJ is the meet organizer for this year's Nat's. We asked her so many questions about the meet—for our Official Program—that we kinda forgot anyone else was involved. Right about as many of you are reading this, she's over in Chelan, Washington burnin' up with the rest of the 85-90 (or more!) competitors. So is George. George? Yep **George Sturtevant**. The "other" one. The unsung sort. Well, folks, we owe George an apology. And you need to know it was he who took that colorful picture that adorned our front cover. Now George, like many quiet, behind the scene types, didn't say anything. He'd probably be a tad embarrassed if he knew we were gonna go on like this. And it wasn't like the picture was the pinnacle of achievement in his life. Matter of fact CJ didn't even realize she *hadn't* taken it herself till she found her face in the crowd (it's she in front of the rainbow glider nearest the edge). So George may not care. But we do. 'Cause not only did we blow it on giving him the credit he earned, but we added to the lack of song for unsung heroes. That's too bad. We invite you to look around your own club. Got any of them there unsung types? Well, don't just let do all the work no one else will. Okay, let 'em do the work, but *appreciate what they do!* We'll get off our soapbox now. Except that we may have set a record last issue, 'cause we forgot *two* folks. The other one appeared as a bunch of dashes in this column (like: "----"). Our fancy computer was supposed to remind us to get the spelling correct, and fill in the ---- with his name. Darn computers, they're just so dumb. You'll be reminded of the effort by **Ron Kenney** if you'll read his letter up in "Forum" (pg. 4). He's trying to help the sport—the unsung hero type?—and we were glad to tell his tale. Now you know who he is (and it *does* have an "e" before the "y"). Hey,

since we mentioned Chelan, the wonder site of eastern Washington got off to a slow start this season. Even the new 200-mile king, **Randy Haney**, couldn't get enough miles to make pass #1 of Region I's Qualifier a valid meet. But that changed. Try #2 brought some much improved mileage, the meet was valid, and things oughta be real stoked up for what we hope is another spectacular Nationals. However, Chelan hasn't got all the action. Of course, by now, everyone knows about Haney's (probable) 202 miler. But, yes fans, there's more. Our buddy, crazy Mike King wrote one of his letter books to say that Region V is hot this year. On May 31, **Kevin Christopherson** netted a 150 mile flight from Whiskey Peak, across such mah-vel-ous sounding places as the Red Desert and Flaming Gorge. The last thermal he got (at sundown!) took him to 16 grand, but he ran out of friendly terrain, saw some farmers for witness duty, and spiralled down. As King puts it, "He says he just went up on the mountain to clear snow." Sure, Mike. However, the euphoria (for Kevin) ended quickly when *the next day* **John Woiwode** cracked off what apparently amounted to 154 miles. King says "as measured by a batten shaft," so it ain't exactly a great circle computer calculation. But they both deserve congrats big-time. That still isn't all, though. Another reliable distance flyer who likes the "official" route is **Bob Thompson**. Yep, the Grand Canyon crosser filed for a new National record, 145 miles for Distance to a Goal, Open Class, Flexwing, Single-Place. (Phew! When it gets "legal," the nomenclature gets so dam complicated.) Anyway, ole Bob flew from Flagstaff (didn't hear what site) to Rock Point, Arizona on June 12 in his WW Sport. Attaboy, Bob! Except for good flights and the other news items mentioned up front, things have been kinda quiet as summer begins in America. That's not so unusual. The new divers are typically ready in the spring, and by late spring/early summer the contest season heats up. However, new diver purchases and contest participation amounts to a small percentage of total activities. We need to hear from you out there in the hinterlands. When ya hear something, pick up the phone or scribble it on a piece of paper and send it in. We love the tidbits. And judging from the continuing deluge of interest in this funky little column, *so do you!* S-o-o-o-o-o... got news or opinions? Send 'em to "Product Lines," Box 98786, Tacoma, WA 98498-0786.

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