



**DUE TO GREAT INITIAL ACCEPTANCE ...
... OFFER EXTENDED TILL JULY 31st.**

The MYSTIC... is MAGIC.

MYSTIC SPECIFICATIONS

MYSTIC	155	166	177
Wing span	32.8 ft	34.1 ft	34.8 ft
Aspect ratio	6.72	6.8	6.84
Glider weight	64 lbs	66 lbs	71 lbs
Optimum pilot body weight	140-160 lbs	155-175 lbs	175-200 lbs
Packed length	19.2 ft	19.8 ft	20.4 ft
Optional breakdown length	19.2 ft	12.8 ft	13.4 ft

SPECIAL INTRODUCTORY OFFER:

Delta Wing Gliders is now taking deposits for delivery of certified models (certification in progress) at the Special Price of \$2250., which includes all options (...streamlined downtubes and king post; Variable Geometry system; Ball Tips; foam filled and Surf-kote leading edges; spectrum cloth; and half ribs).
OFFER EXPIRES JUNE 30th, 1985, so contact your local dealer or Delta Wing today!

DELTA WING GLIDERS • Box 483 • Van Nuys, CA 91408 • 818/787-6600 • Telex 65-1425

OFFICIAL PROGRAM
1985 U.S. HANG GLIDING NATIONALS
CHELAN, WASHINGTON

WHOLE AIR

ISSUE NO. 43, 4th in 1985

JULY 1985 — \$2.50 (Can. \$3.25 / DM 6)



FIRST WORLD MEET REPORT THE NIMBUS SAILPLANE

U.S. Postage PAID
Blk Rte Permit No. 440
Box 98786
Tacoma, WA 98498-0786
Address Correction Requested

THIS NEW WING OFFERS THREE IMPORTANT ADVANTAGES



BETTER HANDLING — With a higher pilot suspension point, the roll pressure is reduced and the rate is faster. The landing flare is also easier and when you pull in your body stays flatter to the wind.

LOWER DRAG — With a new control bar, king post, rigging and enclosed keel, the reduction in drag is significant. The result is a noticeably better sink rate and L/D especially at higher speeds.

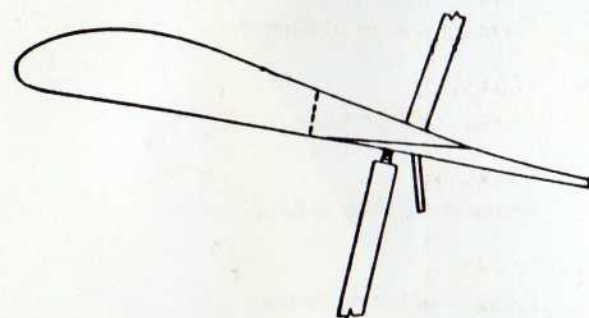
HGMA certified May 23, 1985 and in production.

THE NEW SENSOR 510 B 160 VG is the result of ten years of research and development by Robert Trampenau and Co. Seedwings original ideas in use today are fiberglass curved wing tips, computer developed pre-cambered aluminum ribs with fiberglass and trailing edge reflex wires, the enclosed cross tube and keel Sensor 210 and 411 of 1976 and 1978 and the in-flight adjustable geometry.

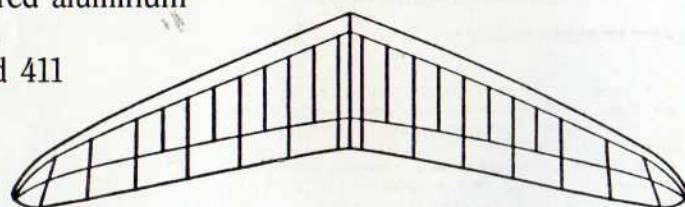
To order a new Sensor 510 B 160 VG, call one of our dealers nearest you or call Seedwings direct. We will either refer you to one of our dealers or take your order direct to the factory.

Recommended skill and judgement level: advanced. Dealer inquiries invited.

5760 Thornwood Drive #3 • Santa Barbara, CA
93117
(805) 967-4848



510B 160 Low profile tube high keel pocket



The proven Sensor 510 160 sail and planform.



SEEDWINGS

WHOLE AIR

ISSUE NO. 43, VOLUME NO. 8, NO. 4, 1985

FEATURES:

15 **WORLD MEET PREVIEW**
Whole Air Correspondent, Gib Eggen attended the Weltmeisterschafts in Kossen, Austria, and gives you the early bird report of results.

38 **NIMBUS SAILPLANE**
In Whole Air's continuing series of reports about Rigid Super Wings, read in this issue about Dominique Loup's Nimbus from Switzerland, reported by Chuck Rhodes.

NATIONALS PROGRAM:

16 **PRESENTING...**
Lead in to the Program

17 **SPONSORS**
Advertisements

20 **The WELCOME**
From the Mayor of Chelan

21 **The EVENT**
About the Nationals

22 **The MAPS**
Guides of Where to Do What

24 **The AREA**
Switzerland of America

25 **The CONTEST**
Description of this meet
By Kenny Brown

26 **The COMPETITORS**
List of Participating Pilots

27 **The CITY**
About Lake Chelan

28 **The TOP TEN plus One**
Big Name Profiles

30 **The HISTORY**
Past Nationals Champions
(Assisted by Liz Sharp)

31 **The RECORDS**
World Record Achievements
(Assisted by Bob Thompson)

32 **The TECHNOLOGY**
Changes in Equipment
By Steve Hollister

33 **The SITE**
Facts on Chelan Butte
By George Sturtevant

34 **The AEROBATICS**
Viewing and Judging Them
By Aaron Swepston

35 **The ORGANIZERS**
Profiles of the Committee

36 **The DIVERSIONS**
Things to Do and See

AERO TOPICS:

4 **PUBLISHER'S COLUMN**
Editorial

8 **FORUM**
Reader Commentary

10 **NEWS**
Hang Gliding News

40 **DIRECTORY**
Where to Buy What You Need

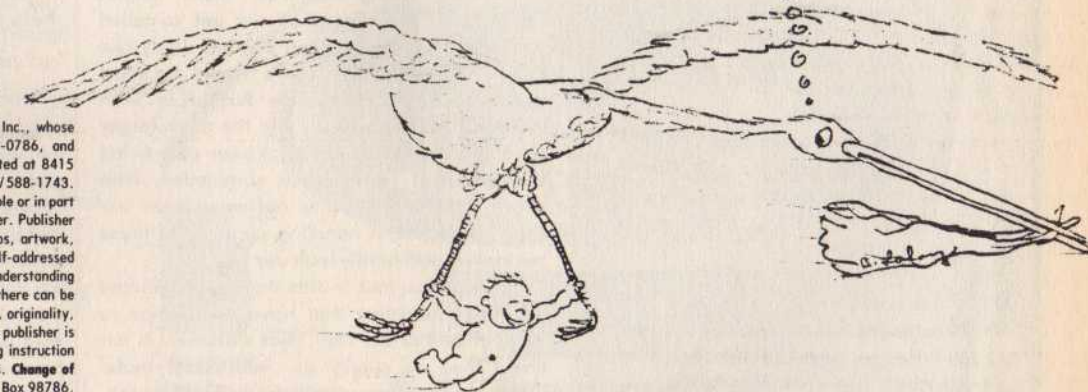
41 **CLASSIFIEDS**
For the Bargain Hunter

42 **PRODUCT LINES**
Consumer News

IN FUTURE ISSUES

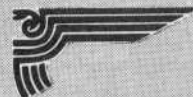
Soaring the Grand Canyon
Hang Gliding in Costa Rica
Rogallo Interviewed
World Meet Report
Hang Gliding in Japan
Tandem Aero Towing
Bob Trampenau Interview

I KNOW WHERE THIS ONE GOES... IT MUST BE IN THE GENES!



WHOLE AIR Magazine is published bi-monthly by Whole Air Inc., whose mailing address is P.O. Box 98786, Tacoma, WA 98498-0786, and whose executive, editorial, and advertising offices are located at 8415 Steilacoom Blvd. SW, Tacoma, WA 98498; telephone 206/588-1743. © 1985 by Whole Air Inc. All rights reserved. Nothing in whole or in part may be reproduced without written permission of the publisher. Publisher assumes no responsibility for unsolicited material. All photos, artwork, and manuscripts must be accompanied by a stamped, self-addressed return envelope. This publication is purchased with the understanding that information presented is from many sources for which there can be no warranty or responsibility by the publisher as to accuracy, originality, or completeness. It is sold with the understanding that the publisher is not engaged in rendering product endorsements or providing instruction as a substitute for appropriate training by qualified sources. **Change of Address & Subscription Inquiries** — Send to WHOLE AIR, P.O. Box 98786, Tacoma, WA 98498-0786. Expiration on mailing label indicates last issue to be received. Please give six to eight weeks advance notice of address change. Send both old and new address plus mailing label from recent issue, if available. Subscription rate: U.S. and Possessions, one year \$12.00; Mexico and Canada, one year \$16.00. All other countries, one year \$20.00; Air Mail available, write for rates. Single copy price \$2.50. **Back Issues:** Many past issues are still in stock. To order, send \$3.50 plus 95¢ postage to Back Issue Dept., P.O. Box 98786, Tacoma, WA 98498-0786. No orders processed without the proper funds. **All Payments:** U.S. Funds only, please.

Cartoon by Bob Lalay



Volume 8, No. 4, 1985
ISSUE NO. 43

Editor

Dan Johnson

British Correspondent

Noel Whittall

German Correspondent

Gib Eggen, D.O.

Towing Section

Tom Phillips

Donell Hewett

Staff Photographers

BJ Schulte

Cliff Whitney

Doug Barnette

Art/Photo Contributors

Bob Lafay

Dan Johnson

Gib Eggen, D.O.

Doug Barnette

John Stevens

Sherry Kindel-McMinn

Cliff Whitney

Noel Whittall

Donald Olmstead

Dominique Loup

Editorial Contributors

Gib Eggen, D.O.

Dan Johnson

Chuck Rhodes

George Sturdevant

Mark Kenworthy

Steve Hollister

Kenny Brown

Aaron Swepston

(with help from)

Bob Thompson

Liz Sharp

USHGA Offices

Published By

Whole Air, Inc.

Cover Photo

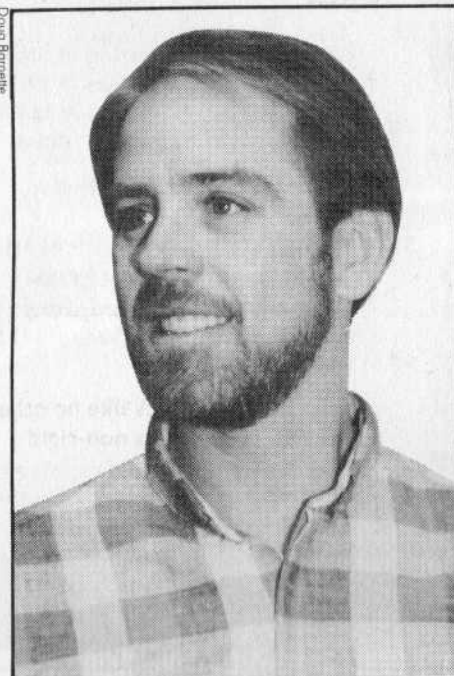
John Heiney

On The Cover:

John Heiney captured this half upside-down view while piloting his Delta Wing Light Dream at the 1984 Telluride Festival. Heiney triggered the shutter with his toe on a home-made radio-controlled release installed in the boot of his cocoon harness.

Publisher's Column

Doug Barnette



MY WELCOME

IN ADDITION TO welcomes from other notables in this issue, like the Mayor of Chelan, I'd like to take this opportunity to welcome you, not only to the pages of yet another *Whole Air*, but to our first effort at producing a U. S. Nationals Program for our prime national contest.

It is my hope that this idea can catch on and become a regular part of our editorial fare. Several reasons bring this desire to the forefront.

In our small, and *still* reducing industry, in order to produce a magazine of this coverage and expense, we really need to reach out... not just to new prospective subscribers, but to new advertisers. Along the way, many helpful supporters have suggested we get so-called "outside" advertisers. True enough, firms like Kodak, Chevrolet, or Coors would be most welcome sources of revenue. But this is "wish material" for the future. Even the much larger ultralight magazines have not been able to tap this group of well-monied companies. With about 9,500 participants nation-wide in our sport, ad agencies handling accounts of these businesses will hardly look our way.

Yet as you look in this issue, you will find ads for enterprises that have no relation to hang gliders at all. Well, that statement is not true. They *do* supply us, with food, motel rooms, and other services. Just as Kodak, Chevy, and Coors supply us with goods we consume, so do these patrons of this Nationals Program issue.

PLEASE... PATRONIZE THESE ADVERTISERS

Whether or not you can "get into" the fact that these ads are present in *Whole Air*, realize

this... that *without their support* - via good ole American greenbacks - this Program Issue would be less likely. And also realize that this sort of development offers us promise for the future.

At a time when we see a "reducing" trend in U. S. hang gliding, anyone else throwing a few dollars our (the sport's) way should be appreciated, even applauded. Goodness knows, more of this is desirable, is it not? They pay. We all get the benefits.

So, patronize those whose ads appear here. And remember that those advertising hang gliding products in our pages deserve your purchase considerations as well.

MORE FOR 1986

You can expect to see more of this in 1986 issues of *Whole Air*. With so few companies involved in the supply of goods and/or services to the American hang glider community, any new advertisers we can gain only help *Whole Air* to be able to provide more in the vein of interesting reading and fast news. They also help us reach out with the message of what modern hang gliding has to offer.

In 1986 we will be targeting each issue at special subjects. Some ideas on the proverbial drawing board at this time include a special section on schools (probably early in the year), so prospective students can have a source listing for places to go spend some money in the pursuit of hang gliding. Another is a listing of the clubs that these new persons can join. We've got some excellent clubs in this country, and they could use the promotion to gain and keep members.

As the flying season develops, we'll repeat the success of this issue by giving special attention to major contests - places where given wide, even national attention via the news media, the growth of our sport can be nurtured. (Don't worry, we *will not* be giving pages and pages of blow-by-blow reports of the meet itself.) We'll also plan to give one issue special extra-wide coverage of the foreign scene, perhaps of a major European or other contest, in addition to our regular editorial leanings in that direction.

We will keep you updated on progress to these goals as they develop.

WANT TO HELP?

In order to attempt this sort of thing we'll need some help on the local end. Not only will we want to be in contact with all the hang glider businesses at whatever location(s) is covered in the special issue, but we'll be looking for some sales-oriented folks to contact local area merchants as well. And it will pay. So, if you've some talent, and a bit of time, and want to earn a few extra bucks, get in touch with us. Please *WRITE* of this interest *at first*, however, so we'll start with a written record of who is interested in what (and so we're not on the phone all day while we work to do).

Thanks,
Dan Johnson

THE THRILL OF SUSPENDED AVIATION

ParaPlane®



ParaPlane®

Push the left steering arm to go left. Push the right to go right. Push both simultaneously for your landing flare. We couldn't ignore the hands altogether so we fitted a power control lever. Push the lever forward to go up, back to go down. Let's review. Left, Right, Up, Down. It's that easy to fly the ParaPlane. And that much fun.

It gets better. ParaPlane® comes complete, ready to fly in one hour. When you buy it, you can go flying that same day. You won't spend your weekends assembling your machine; you'll spend them flying. ParaPlane is lightweight and compact enough to fit in most cars. That means no roof racks, no trailers, no hangar space.

What's it like to fly pure and simple? There's no better way to find out than with the ParaPlane. For safety, ease of operation, portability, and low cost there is simply nothing like it. Become a ParaPilot - today. Call for your nearest authorized ParaPlane® dealer.

ParaPlane. A revolution in flight. A technological innovation. A recreational flying vehicle for anyone who has ever wanted to go aloft alone.

Those who fly now will find it remarkably simple, entertaining, and filled with the pioneer spirit of aviation. Those who yearn to fly will discover a docile, forgiving, wind-in-the-face flying machine to fulfill that fantasy in all of us.

The ParaPlane® flies like no other machine. The wing is a non-rigid gliding parachute; inherently stable. And, as a parachute, a continuously operational recovery system. In flight, power on or off, the ParaPlane wing provides an unusually stable flight path.

The unique combination of parachute wing, twin engine power, and crosswind landing gear make it very easy to fly. Even for beginners. In fact, no flying experience or license is required of fledgling ParaPlane pilots. "Hands free" flying isn't just a catchword with the ParaPlane. Because you steer it with your feet.



* ParaPlane Corporation
5801 Magnolia Avenue
Pennsauken, NJ 08109
(609) 663-2234
TWX 7108920105

Dealer Inquiries Welcome



With ParaPlane Corporation you fly with the pioneer of sport parachuting. Our experience with gliding ram-air parachutes includes over 25 years in the design and development of sport, military and gliding aerial delivery systems. Our expertise in aeronautical engineering is undisputed as evidenced by numerous awards, patents and worldwide recognition as a leader in low-speed aerodynamics and aviation safety devices.

® REGISTERED TRADEMARK
* USA & Foreign Patents and Patents Pending



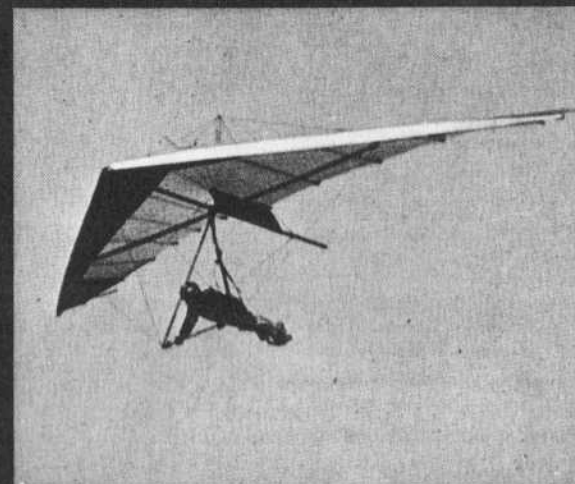
The REVOLUTION CONTINUES...

From the People that Brought Aero-Towing in 1984 Comes the Most Exciting and Affordable Line of Gliders and Soaring Equipment for 1985.

The ATLAS '85.
The World's Most Popular Glider Ever Built.

SAFETY RECORD?

The most envied one: Immaculate. Over 6,000 Atlases built to date! The Atlas was one of the first gliders to be certificated in Germany and Switzerland.



ATLAS 85
Fully Certified to Stringent German & Swiss Standards

PERFORMANCE RECORD?

★ World Champion ★ ★ European Champion ★ ★ French Champion ★ ★ Champion of England, Switzerland, Italy, Norway, Brazil, Japan, and Argentina ★

The Atlas has bigger double surface brothers which are more sophisticated and faster, but when it comes to pure sink rate, it often remains "top of the stack." In competition, when sink rate is primary, ATLAS '85 pilots are competitors to watch.



...Who Else Offers These Guarantees?

At A Shocking Low Price...!!

INTRODUCTORY PRICE --- \$ 1395

Dealer Inquiries Welcome. Dealer Training and Certification Available.

For further information, please contact Skylines at:

404/398-3433 or 408/422-2781

...We're Bringing Fun And Affordability Back To Hang Gliding...

ANXIETY-FREE FLYING

Perhaps the easiest glider to fly currently in the U. S. from the quickest set-up time and easy preflight to light and predictable handling, this ATLAS '85 will treat you to hours and miles of fun.

guaranteed by
SKYLINES ENTERPRISES LTD.

(an American Corporation)

- Guarantees in writing... a full spare parts availability for a minimum of three years from the date of purchase!!
- Guarantees... USHGA Certified Instruction through its dedicated network of schools and flight centers!!
- Guarantees... Immediate delivery after March 1, 1985 (both gliders and parts)!!

NEW IV 85



PO Box 1153 Mercer Island, WA
206/622-8132 98040
Telex #296585

Pilot: Ed Ramey — Photo: Howard Handy



New sized Airfoil Tubing with lighter base tube fitting.

New fittings at junction; New lighter weight, x-spar; Zippered access.

Redesigned x-spar attachment; assists in ease of set-up.

Check out the New Magic In Your Area. Contact U.S. Airwave for the dealer nearest you, or to establish an Airwave Gliders dealership.

New size Airfoil; Slick new fittings; New construction.

New construction; 50% less drag than conventional control bar fittings.

Redesigned nose catch assembly; easier to assemble.

The Magic IV has been certified to the standards established by the German, Swiss, and British Hang Glider Regulation Boards.



BALL VARIOMETERS INC.

5735 ARAPAHOE AVENUE, BOULDER, COLORADO, 80303

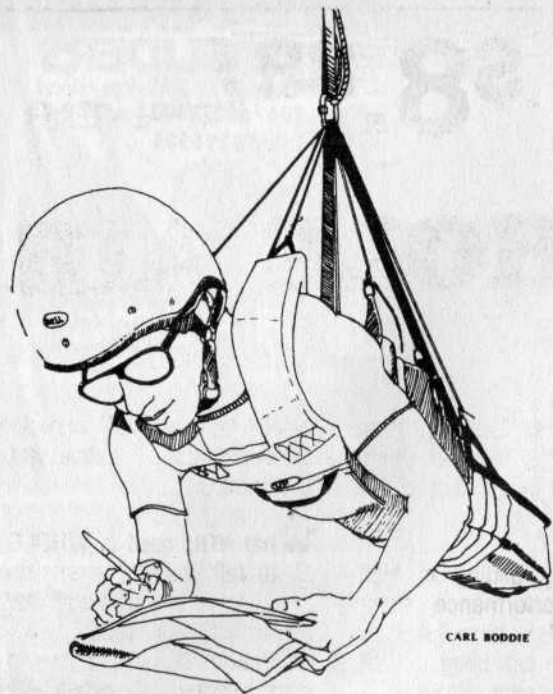
PHONE 303-449-2135



MODEL M-20 WRIST AUDIO/VARIO

- Small case with velcro wrist strap
- Exact calibration from SL to 20,000 feet.
- Up audio with adjustable sink alert
- Speed-to-fly scale included
- Total energy probe and Ball-clamp available

AVAILABLE FROM HANG GLIDER MANUFACTURERS AND DEALERS



CARL RODDIE

FORUM

Airwave & Airwave U.S. Consumer Advisory

Dear Editor;
Airwave Gliders U. K. would like to clarify that Delta Wing Gliders, manufacturers of the Mystic, a Magic look-a-like (?) is in no way contracted to, or licensed to manufacture Magic gliders in the USA. All Magic gliders are manufactured on the Isle of Wight.

Delta Wing Gliders is using the reputation which we have worked hard to establish to further their goals. I get the distinct impression that the Delta Wing Mystic is being marketed as a Magic clone. This is just not so. The only similarities stem from the fact that the patterns used to construct a Mystic sail were obtained from a torn-apart Magic IV. It will take years for their new glider to reach the refined qualities possessed by a Magic IV. We advise consumers to be wary. There is only one real Magic glider, and that is the one we offer.

For more information on this matter, please feel free to contact me personally.

Sincerely,

KENNY BROWN,
Airwave Gliders, U.S.
P. O. Box 1153,
Mercer Island, WA 98040,
(206) 622-8132

Thanks from Panama

Dear Editor;
Only \$8.88! I'll take it.
Note: Actually I was willing to pay more for a magazine of this caliber. Living in Panama and flying, I feel like the rest of the world is passing me by. The other pilots and myself (there's five or six of us) hurt for information on equipment, technique, etc... so we really appreciate what you guys print.

Thanks.

JAMES R. HARRIS
PANAMA

Did Me Right

Dear Editor;
I just wanted to write and thank you for the article you did on our wing ("Henry Cherry's Hang Plane," May 85 Whole Air). It was great!

I felt you represented what we are doing as best possible. I've already received two responses, both from California, on building the quarter-scale model, and I am following up on those now.

HENRY CHERRY
Dallas, GA

Aye for Foreign News

Dear Editor;
I strongly support *Whole Air's* coverage of the foreign hang gliding scene. *Hang Gliding* magazine does an adequate job on the U. S. news, and there is not need for you to rehash the same information.

"Hang Gliding In Russia" was an outstanding piece of journalism for a specialty publication. Well done. I am looking forward to your article on hang gliding in India (appeared in June 85 *Whole Air*).

So tell me more about the Canadians, French, Swiss, and Australians, and I will subscribe for a long time.

LEE VAN CAMP
Irving, TX

Dear Editor;
I think your idea in the may issue of *Whole Air* is great. It would certainly attract new subscribers in Europe.

From my own point of view it would absolutely make *Whole Air* more interesting reading.

One piece of information, though. The majority of Norwegians clearly prefer reading English articles rather than German... is it the same with the French, Austrians, and Swiss?

Good luck!

ALFOPPOYEN
Oslo, NORWAY

Thanks for the votes of confidence, Lee and Alf. We've also received several phone calls saying essentially, "Go for it." While this is satisfying, several wrinkles present themselves for us to be able to accomplish such a major undertaking (never achieved by any other hang gliding magazine, and done successfully only by very large periodicals (Time, Wall Street Journal, and the like). At the time this is written, the entire project is in a holding pattern as we negotiate numerous arrangements with contacts in Europe. But as we've been in progress on this for approaching one year already, we'll try to be patient and continue the effort.

-Ed.

Dear Editor;
I really enjoy the magazine. I've been reading it for the past two years whenever I could find it on the newsstands. I figure it's time I subscribed. Keep up the good work!

TOM FORSTER

Short Rations for Us

Dear Editor;
Managed to catch the last couple days of the Championships in Kossen. Enjoyed meeting up with Gib (Eggen, D. O. - *Whole Air's* German Correspondent), plus lots of old friends. (Noel is *Whole Air's* British Correspondent.)

Hope you will keep your proof-reader on short rations until he gets his headers right!

Kindest regards.

NOEL WHITTALL,
Leeds, ENGLAND

Yipes! Noel. Yer talkin' to yer ole buddies here. Actually, you're right, but then we were already on short rations. This is the hang glider biz, remember? Truth is... we already apologized for publishing Noel's story (and one featuring LaMouette) without the article legends and by-lines. The groveling we did last time tried to pass the blame to our printer. After all, who knows who he is? (And who cares... so we can get away with blaming him. Can't we?)

-Ed.

ADVERTISER'S INDEX

Airwave Gliders, U.S.	7, 13
Apple Cup Cafe	17
Ball Variometer	7
Ballistic Recovery System	11
Chelan Photographics	18
Delta Wing Gliders	44 (BC)
Demo Light Dreams	16, 18
High Energy Sports	39
Flight Research (prone trike)	39
Golden Memory Photos	17
Kelly's Ace Hardware	18
Lakeside Grocery	19
Lakeview Drive-In	17
Leading Edge Air Foils	16
Litek Variometers	13
Mr. J's (bowling & food)	19
Northern Sun Gliders	16
Pacific Northwest (school)	26
Paraplane Corp.	5
Park Lake Motel	19
Parkway Motel	18
Pat & Mike's Groceries	18
Progressive Aircraft Co.	43 (IBC)
Seedwings	2 (IFC)
Ship 'n Shore Drive-In	19
Sport Flyer	14
The Crockery	19
Uncle Bub's Restaurant	18
U.S.H.G.A.	11
Whole Air subscription	9
Classifieds	41
Directory	40

ATTENTION \$8.88/ ONE YEAR

WHOLE AIR

SAILPLANE PILOTS

PRIVATE PILOTS

ULTRALIGHT PILOTS

AIRLINE PILOTS

HOMEBUILT PILOTS

STUDENT PILOTS

BALLOON PILOTS

SKY DIVERS

HANG GLIDER PILOTS

WHOLE AIR, INC. 1985

As America's Largest Hang Gliding Magazine, we want you to know all about flying hang gliders in the Eighties.

Modern hang gliding is high-tech, high performance superwings ... a safety record that the rest of aviation can envy ... foot-launching or aero towing ... sophisticated instruments ...

quality training from experienced professionals ... a fine national organization ...

What YOU need is WHOLE AIR ... to tell you the latest news in every area, to evaluate all the new equipment, to report on new revolutions ... in training, hardware, regulations, and on. WHOLE AIR is fast with the news when the season is hot.

YOU'LL WANT TO SUBSCRIBE

TO MAKE THAT EASY AND REASONABLE, WE'VE A SPECIAL OFFER JUST FOR YOU PILOTS. SIMPLY TELL US WHAT YOU FLY NOW, AND SAVE 40%!

Clip Here

WHOLE AIR

YES, I'd like to receive WHOLE AIR for the SPECIAL PILOT OFFER of only \$8.88 for one year (40% off the single copy price).

To identify myself as a pilot, I currently fly a _____ (make & model).

Name _____

Address _____

Zip Code _____

Method of Payment _____ Charge Card Users _____

Payment Enclosed _____ (Card No.)

Bill Me (in advance) _____ (Exp. Date)

MasterCard or VISA _____

Foreign pilots: Add \$4 (Canada) or \$8 (All Others)
U. S. Funds Only Please!

Send to: **WHOLE AIR**, Box 98786, Tacoma, WA 98498-0786
or Call ... NOW **1-800/426-8538** (for charge card orders of subscriptions ONLY)

INDUSTRY NEWS

Progressive Aircraft Joins Delta Wing



In a move likely to be one of the year's most significant, Bill Bennett of Delta Wing Gliders has announced that Dick Boone's Progressive Aircraft Company will be joining him in what is essentially a joint venture for the two firms.

Perhaps the wording should be re-joined as Boone worked for seven years as Delta Wing's designer and company Vice President. And perhaps the terminology should be merger, not combining for a joint venture.

The details of the arrangement are still in negotiation, so new is the deal to combine businesses, so the actual term for what is occurring is also in a state of limbo. But beginning June 18th, 1985, Dick Boone had agreed in principle to the association. The two companies will continue all models in the product lines of each company, including the Light Dream series, the Mystic, and - still in development - the Sprint from Delta Wing, plus the Breez and Dawn series from Pro-Air.

Details were not available at press time as to whether the Pro-Air factory in Simi Valley would remain open. Officials from each company were still finalizing several points of the unification.

Comments were not available to indicate why the deal was suggested in the first place. Pro-Air has recently released their Dawn Comp model, and Delta Wing had just announced their new Mystic line. Both firms expressed satisfaction with the marketing development for each of these new ships, and were quick to say that sales on their intermediate lines were holding very well as the season continues in its typically stronger summertime period.

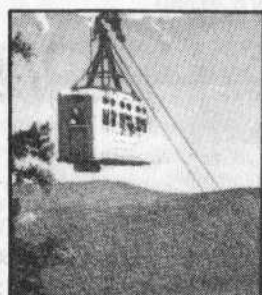
The maneuver, for whatever motivation, effectively reduces the number of active hang glider manufacturers in the United States to just five, with one of those apparently in financial difficulty. Remaining besides the Delta Wing/Pro-Air group is Wills Wing, Seedwings, Pacific Windcraft, and UP.

Two other organizations also supply gliders to the American market: Airwave U. S. and Moyes America. Neither of these concerns, however, manufactures in the United States, but rather import their craft. In addition, Pacific Windcraft is also in partnership with LaMouette of France under the name Skylines, Ltd. This company imports the Atlas and Profil models.

For more information on the "merger" between Bennett and Boone, contact either through Delta Wing by writing P. O. Box 483, Van Nuys CA 91408, or by calling 818/787-6600.



Tram Re-open for Glider Pilots in Chattanooga



Closed for over two years, due to insurance costs and other snags, the tramway cablecar system at Raccoon Mountain has reinstated operations subsequent to the arrival of Leon Riche and his company, High Adventure Sports.

Riche has contracted with Crystal Simulator owner, Dan Johnson, to revive the temporarily shut-down training/tourist device. With that arrangement, High Adventure Sports also began regular operations of their outdoor entertainment enterprise based at Raccoon Mountain, near Chattanooga, Tennessee. The company is occupying the former shop and office of Crystal Air Sports, which had operated the flight park (and formerly the tram system) since April of 1977. Crystal Air Sports merged businesses with, and sold inventory to Lookout Mountain Flight Park in nearby Georgia.

High Adventure Sports provides a wide variety of outdoor enjoyment activities, including Simulator rides, ultralight flights, hot-air balloon rides, skydiving lessons and demonstrations, nature trail hikes, whitewater rafting, rockclimbing and rappelling, boat rentals, river cruises, and the High Adventure Sports show.

Concurrent with their arrangement to lease the former home of Crystal Air Sports, Riche and group, which includes his wife, Chris, agreed to operate the tram system for hang glider pilots. The device will not be carrying any of the public, and pilots will be required to sign a waiver before loading their gliders and boarding the tram.

For more information, contact High Adventure Sports by writing, Rt. 4, Cummings Hwy, Chattanooga, TN 37409; or by calling 615/825-0444.

Kitty Hawk Kites West Arranges Group Trip to Hawaii



Have you been to Hawaii lately? asks a brochure sent to businesses all over the United States. The circular announces a group expedition to Hawaii arranged by Kitty Hawk Kites of Marina, California. Dates for the event are August 12-19, 1985.

The tour of Hawaii is organized for hang glider pilots especially, and has features that should be of interest to any flyers.

Included for the pilot fare of \$1,095 is: Round trip airfare to and from San Francisco; inter-island transfers; ground transfers; rental car and gas; driver/guide; 7 nights accommodations at the new Maile high rise motel (2 blocks off the beach at Wakiki); air freight for your glider, or rental paid; windsurfing board rental or instruction paid; and sightseeing. Non-pilots who think this sounds pretty good can attend for \$995.00.

Contact Kitty Hawk Kites (West) by writing P. O. Box 828; Marina, CA 93933; or call 408/384-2622.

INTERNATIONAL NEWS

Polaris Puts the GZ Polaris Into Production

After ceasing an agreement with UP, Polaris continued to work on their version of the GZ (Gamma Zero), said to have similar features to the UP Glidezilla (GZ). The model has just been released for sale.

Continued on Page 12

The Original Ballistic Parachute System



PROVEN PERFORMANCE

- ★ 7 YEARS MANUFACTURING EXPERIENCE
- ★ MORE THAN 2,000 UNITS SOLD WORLDWIDE
- ★ OVER 200 DEALERS WORLDWIDE
- ★ 18 ~~13~~ EMERGENCY DEPLOYMENTS DOCUMENTED TO DATE

SPECIFICATIONS:
 • Under 2 seconds to full opening • 501 sq. ft. canopy rates to 550 lbs. • 613 sq. ft. Two-Place rated to 750 lbs • 16" long x 6" dia. 16 lbs. (Approx. wt.) • Dual mechanical cartridge system for redundancy • Mounts for over 34 UL models • Includes combination nylon and steel cable bridle • Two styles available • Aluminum or Nylon weatherproof container

\$980⁰⁰ INCLUDES COMPLETE INSTRUCTIONS, MOUNTING BRACKETS & HARDWARE

TO ORDER, PLEASE CALL: (612) 731-1311 OR WRITE:

BALLISTIC RECOVERY SYSTEMS, INC.
 9242 Hudson Boulevard • Lake Elmo, MN 55042

BRS . . . Designed to Fit Most Makes & Models of Ultralights.

WE HELP YOU FLY!

photo by Bettina Gray



We're the United States Hang Gliding Association.
 Join us and get *Hang Gliding* magazine, the world's leader in the sport. We cover foot-launch hang gliding exclusively! Beautiful color photography, technical articles, contest results, feature stories, new products, equipment evaluations, how-to articles — all written by the sport's top names — fill our pages.

- I include my check or money order as follows:
- \$39.00 FULL MEMBER (\$42.00 foreign) — as a full member you receive 12 issue of *Hang Gliding* magazine, pilot liability insurance, USHGA membership benefits.
 - \$29.00 SUBSCRIPTION (\$32.00 foreign) for one year.
 - \$53.00 SUBSCRIPTION (\$59.00 foreign) for two years.
 - \$77.00 SUBSCRIPTION (\$86.00 foreign) for three years.

Name _____ Phone _____
 Address _____ Age _____
 City _____ State _____ Zip _____

Send check or money order to:
USHGA, Box 66306, Los Angeles, CA 90066

- \$500,000 pilot liability insurance
- Site insurance for chapter clubs
- Local, regional and national competition
- Pilot rating program
- Tandem and ultralight insurance
- and much more!



Specifications on the newest model from Italy's largest producer of hang gliders are as follows: Sail Area 15.9 square meters (about 170 square feet); Nose Angle 122 degrees; Span 10.7 meters (35 feet); Aspect Ratio 7.2; 25 Ribs; Weight 32 Kilograms (70 pounds); Pilot Weight Range 60-90 kilograms (130-200 pounds).

They say the GZ has no keel pocket (meaning an HP or Glidezilla or Sensor 510B style low profile keel pocket), and that the GZ has superior handling over the Glidezilla although a slight loss in performance.

For further information on the Polaris GZ contact the factory at Costruzione Deltaplani; Via Flaminia 208; 06021 Costacciaro (PG); ITALY, or contact their Canadian supplier, Fly West, Ltd; at 2207-42 St., SE; Calgary, Alberta; CANADA T2B-1G4, or by calling 403/235-4653.

1985 NATIONALS UPDATE NEWS

Chelan, Site of a recent 122 Mile Flight, Hosts the 1985 Nationals

Lake Chelan provides a perfect backdrop for the 1985 Nationals as it is nestled in a valley 50 miles north of Wenatchee, Washington. The Championships, occurring from July 13-21, are the first such major contest in the city of Chelan.

A mecca for sunworshipping tourists during the summer months, this small town will also host 80 of the nation's top pilots and several international pilots in the hang gliding event of the year.

Chelan possesses what hang gliding pilots term, "...perfect soaring conditions." Mark Kenworthy, Chairman of the 1985 Nationals Planning Committee, said, "We chose Chelan as the site for this year's Nationals because it has a history of being one of the top flying sites in the state of Washington. Wind conditions and land configurations make flights of 80 to 100 miles very possible. In addition, these flights take an easterly direction which takes pilots over miles of farm lands, allowing for easy landings.

This year's National competition is based on a cross-country format, meaning that pilots will launch from Chelan Butte and race to points ranging from 17 to 107 miles away. The pilot with the fastest time will have the best score and accumulate the most points. The pilot with the highest number of points built up throughout the year will become the U. S. National Champion (although the winner of the Nationals contest itself may be a different pilot). Cross-country racing goals include Twisp, Malot, Brewster, Methow, Coulee Dam, Wilbur, Creston, Davenport, Reardan, Almira, Hartline, Coulee City, Ephrata, Rock Island, Mansfield, and Cashmere.

A strong supporter of the adventure sport, the town of Chelan boasts a hang gliding monument in the city park listing the best flight from Chelan over the last several years. In 1984, two meets were run from Chelan, the Aerosails Chelan Cross Country Classic and the Region 1 Qualifier. The Classic was an open distance contest with over 3,800 miles flown by 33 pilots in six days. The regionals was a cross-country race to goal competition with goals from 31 to 64 miles.

Sporting one of Washington's largest lakes, Chelan promises to provide a spectacular sight as pilots soar over the brilliant blue of the lake during this year's competition.



photo by Sherry Kindel - McMinn

CROSS COUNTRY NEWS

Kevin Bye Sets Chelan Site and Washington State Record

On June 23rd, 1985, Kevin Bye, a Seattle pilot, broke all records for the Chelan site, home of this year's Nationals.

Bye flew his Progressive Aircraft Dawn approximately 122 miles (the distance is unverified at press time, and not calculated by the conventional great circle distance). The lengthy cross country voyage took Bye considerably beyond Spokane, situated on the state's extreme eastern border with Idaho.

On the same Sunday odyssey that carried Bye into neighboring Idaho, two other pilots reportedly broke the hundred mile barrier, traveling some 112 or 113 miles each. These distances, while felt relatively accurate and definitely over the century mark, were unverifiable at press time.

All portends indicate the Nationals will be located at a premium site, with the above achievements as proof of its potential. "Considering the caliber of pilots, and the motivation of a prestigious contest, it is entirely possible that a new world record could be set from Chelan this year," feel many of the state's pilots who frequent Chelan.

Thompson, Then Roosevelt Grab Top Spot in Wills' X-C Contest

In a rash of superb long distance flights, Bob Thompson and Dana Roosevelt took away Chattanooga pilot Gary Engelhardt's short-lived First Place slot in Wills Wing's X-C Contingency Award.

After Engelhardt's flight of 130.1 miles just last April, he found himself in the lead for the \$2,000 put up by Wills Wing for the longest X-C of the year in a Wills glider (see the June 85 Whole Air). But he didn't get to see the money or keep the award very long.

Bob Thompson, USHGA Director from Arizona got the Number One spot next with an excellent performance of 146.34 miles (great circle) on June 2, 1985. He was flying in the ongoing Arizona X-C contest, and logged some 560 miles in a single week of flying. Bob flew his Wills HP, thus qualifying for the bucks.

But unknown to Thompson at the time, Dana Roosevelt passed him up that same day with a 154.33 mile performance. Thompson was unaware as Roosevelt landed far enough away from a retrieval route... that it took him two and a half days to get home.

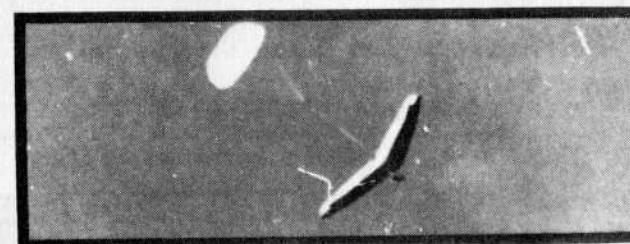
Thompson reports he is not too upset over the tumble from his briefly-held First Place, as more good days remain, and as he and flying friend Hans Heydrich achieved a long-standing personal flight goal themselves, on another day. He and Heydrich managed not only to fly completely across the Grand Canyon, but gained enough altitude on the other rim to fly back. A story will follow in a subsequent Whole Air, Bob promises. Hans is also tied for third in the Arizona X-C with a 139 mile flight.

!PARACHUTES!

S-26

INSURANCE PACKAGE

The Only Certified Parachute You Can Buy!!
Available Through All Qualified Dealers
At Great Prices!!



Contact Pacific Windcraft or Skylines
For The Nearest Qualified Dealer Today!!
Dealer Inquiries Welcome.

Pacific Windcraft Ltd. Skylines Enterprises Ltd.
408/422-2299 408/422-2781

We're Bringing Fun and Affordability Back Into Hang Gliding

RIGID WING READER

★ The Newsletter for the Rigid Wing Hang Gliding Enthusiast



A must for the serious rigid wing hang glider/foot launched sailplane pilot/builder. An open forum for the exchange of information, flight stories, hot building tips, and fellow worldwide rigid wing enthusiasts locator.

Put yourself in the pilot's seat of these exotic craft as you read the stories of their high flying adventures!

SUBSCRIBE TODAY!

Six Issues Per Year • \$10.00 USA
(\$15.00 Foreign)

Contact:

Chuck Rhodes — Publisher
27670 S. John Montgomery Dr.
San Pedro, CA 90732
213/514/3056

MAGIC III & IV AIRWAVE GLIDERS SALES AND SERVICE

Airwave Gliders USA Dealer Service Centers
P.O. Box 1153, Mercer Island WA 98040, 206/622-8132

S.F. Windsports
3620 Wawona
San Francisco, CA 94116
415/753-8828

The Hang Gliding Center
4206 K. Sorrento Valley Blvd.
San Diego, CA 92121
609/450-9008

Lookout Mtn. Flight Park
Rt. 2 Box 215-H
Rising Fawn, GA 30738
404/398-3541

Aerial Voyages
705 - 90th Place SE
Everett, WA 98204
206/347-3844

Morning Side Flight Park
Rt. 12 RFD No. 2
Claremont, NH 03743
603/542-4416

MAGIC Johnson
2332 Jefferson
Duluth, MN 55812
218/724-2387

Boulder Flight
4110 Riverside Dr.
Boulder, CO 80302
303/444-5455

Leading Edge Air Accessories
8444 Spring Valley Rd. #118
Dallas, TX 75240
214/231-5835

Treasure Valley H.G.
Box 746
Nampa, ID 83653
208/465-5593

Aerial Techniques
Rt. 209
Ellenville, NY 12428
914/647-3344

Oregon Airwaves
5454 SW Vacuna
Portland, OR 97214
503/245-2636

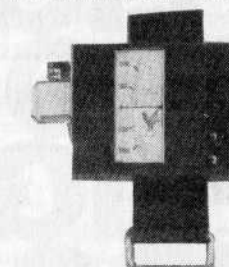
North Jersey School of H.G.
606 Moore St.
Hackettstown, NJ 07840
201/852-0211

Philadelphia School of H.G.
3343 Indian Queen Rd.
Philadelphia, PA 19129
215/845-5667

Carolina Airwave
P.O. Box 1011
Grandfather Mtn., NC 28646
704/733-2800

DEALER INQUIRIES INVITED

LITEK'S
WRIST
VE-12



VARIOMETER

Our time proven instrument is now in a wrist-mount package. The VE12 has the following features:

- Price is only \$169.00
- Available with the -OV option (earphone jack) at \$179.00
- Adjustable sink alarm trip point
- Large easy to read meter face (we are known for that already) with the same dial face as before.
- The zero setting, sink alarm trip point, sensitivity calibration and volume of optional earphone jack are all adjustable from outside of the unit. There is never a need to disassemble it.
- Body of unit is 3 1/2" x 2 1/2" x 1 1/2"
- Can be upgraded to -OV option at later date
- Can be glider mounted
- Long battery life as before
- Uses the same proven circuitry we have used for many years so it responds as quick and stable as previous models.

VE12 Variometer \$169.00
VE12 OV Variometer \$179.00
VE7 Variometer \$169.00
VE35 Variometer \$198.00
OV Earphone Jack Retrofit Kit \$ 16.75

The Earphone Jack can be installed by you (needs a soldering iron) or by us on any variometer we made. It consists of a postage stamp size PC board with parts and 2 wires on it. We charge \$5.00 for 24 hour installation.

LITEK 4326 Fish Hatchery Road,
Grants Pass, OR 97527 503/479-6633

THE SPORT *Flyer*

FLIGHT
SPORT
FLIGHT
SPORT
FLIGHT
SPORT
FLIGHT
SPORT
FLIGHT
SPORT
FLIGHT
SPORT

of
of
of
of
of
of
of
of
of
of
of
of

*You're the One.
Why fly, if not for fun?*

*You'll live this week to soar this weekend.
Can't wait to get back in the workshop ... tools, craft, your dream is taking the shape of a real flying machine.*

Since 1959, we've supported the flying sports, and now proudly introduce the all-new



Devoted exclusively to the sport of flight, now you can look to one source for comprehensive news and feature stories on hang gliding, ultralights, ballooning, soaring kitplanes and homebuilding, vintage aircraft, parachuting ... plus calendar and event coverage, Aerodynamics for the Sport Flyer, Scuttlebutt and much more each month!

So whether you're looking — or living — for the sport of flight, take advantage of the special savings offered here. Take the all-new,



NAME _____

ADDRESS _____

CITY, STATE, ZIP _____

Cash Check VISA Mastercard

Acct. # _____ Exp. _____

Subscribe **NOW** at tremendous savings.

2 years for **\$9**

SPORT Flyer

P.O. Box 98786
Tacoma, WA 98498-0786

Please allow 4-6 weeks for first issue
Canada & Mexico - \$4 extra per year.
Other Countries please write for rates.

WORLD MEET RESULTS PREVIEW



THE 1985 WORLD MEET in Kossen, Austria which took place from the 25th of May till the 9th of June, was brilliantly designed, organized, and flown... and just as brilliantly complicated by politics.

Two hundred and ten pilots flew over 48,000 kilometers (over 30,000 miles!) in two weeks, proof positive of excellent pilots, well chosen tasks, and good weather. The pilots flew twelve out of fourteen possible days, simultaneously at four different sites in four groups of about fifty pilots each.

The team standings were as follows:

First	Great Britain
Second	Australia
Third	Canada
Fourth	United States
Fifth	Germany
Sixth	France
Seventh	Norway
Eighth	Mexico
Ninth	Japan
Tenth	Italy



The individual pilot ranking was as follows:

First	John Pendry (GB)
Second	Steve Moyes (AUS)
Third	Randy Haney (CAN)
Fourth	Bob Calvert (GB)
Fifth	Rick Duncan (AUS)
Sixth	Graham Slater (GB)
Seventh	Gerard Thevenot (F)
Eighth	Michel Carnet (GB)
Ninth	Stefan Blenkinsop (AUS)
Tenth	Mark Bennett (USA)
14th	Rick Rawlings (USA)
20th	Chris Bulger (USA)
23rd	Larry Tudor (USA)
38th	Rob Kells (USA)

Where are Rich Pfeiffer, Stew Smith, and Steve Pearson? Rich pounded everybody else in the meet — during the first week before the cut to the final forty pilots was made — and never lost to John Pendry, beating him on four out of five days, only tying him once. However, he got a zero score on Day One after landing in Germany instead of Austria. Here is where the politics started, and the politicians were off and running for the rest of the meet. (We'll go into this in more depth in the next issue of *Whole Air* with our complete series of stories on the World Meet.) Consequently, Pfeiffer never made the finals; but his behavior throughout the political shenanigans and the rest of the World Meet befitted that of a champion.

Stew Smith had one bad day that knocked

DIRECT FROM KÖSSEN...

him out of his group's Top Ten, just one day before the cut. Steve Pearson had trouble on two days that also cost him entry into the finals.

After the cut, Chris Bulger was in First with Pendry, Schotola (Switzerland), and Duncan (Australia). He had won his group by over one hundred points with a score of 954 (2 points per kilometer plus bonuses for reaching goals). Rick Rawlings was 12th, Larry Tudor 15th, Rob Kells 22nd, and Mark Bennett 32nd.

The USA as a team, without Pfeiffer's score, was now in Third by fifteen points out of over 1700. The team vacillated between Third and Second until a ruling on June 7th that gave Randy Haney of Canada his maximum points on a flight, two days after receiving minimum points due to camera problems. Many pilots were "made" or "broken" by their photographic abilities in the meet, including the Americans, where the team was hurt several times. Haney's upvalued score moved Canada into Third Place.

Steve Moyes beat John Pendry on two of six days, tied him twice, and lost badly enough to him in the finals to end up Second in their battle for Weltmeister (champion).

John Pendry was consistently in the top throughout the meet, and was the standard of comparison along with Moyes and Pfeiffer. He has been setting records and regularly making great cross country flights for quite a while now, so this victory simply announces John Pendry as the true World Champion that he is.

Mark Bennett was the American Team's best finisher at Tenth, flying very consistently in the finals and making no major mistakes. Congratulations to mark!

Brian Milton and Jeff Burnett did a good job leading and managing the Team. Their efforts, and those of the support crew, will be chronicled in the next issue of *Whole Air*, as well as some possible pathways to success for the USA at the next World Championships in Australia!

—Gib Eggen, D.O.

START DREAMIN'

Here's two special opportunities.
So special you'll have to act quickly...
before they're gone.

Two Delta Wing DREAMS, both with
light demo use (involved in **Whole Air** evaluations).

Dream 180 — only \$898 (save \$697!)
Dream 160 — only \$899 (save \$696!)

Write P.O. Box 98786, Tacoma, WA 98498-0786
or call 206/588-1743

AT BELOW DEALER COST!

Speed Rail™

Looking for compact, simple,
stowable pitch control?
Get a Speed Rail™.

Reduced pull-in effort. Flat
body attitude for less drag.
Static load tested to 10G's.

\$7800 complete. Available from:

MISSION
SOARING CENTER

43551 MISSION BLVD. FREMONT, CA 94539
(415) 656-6656 *add \$3 shipping @ 6% tax in Cal.



ALUMINUM TUBING

ORDERS ONLY TOLL FREE
1-800-622-8386, ext. 590

ANODIZED 2-19 LENGTH PRICE

7/8 x .058 x 12' — \$1.65
1" x .049 x 12' — \$1.75
1 1/8 x .058 x 12' — \$2.22
1 1/2 x .095 x 12' — \$2.90

LEADING EDGE AIR FOILS

CATALOGUE
\$3.00

331 South 14th Street, Dept WA
Colorado Springs, Colorado 80904-4096
Customer Service (303) 632-4959



Boris Popov

Northern Sun, Inc.

612/731-1311

9242 Hudson Road
Lake Elmo, MN 55042

PRESENTING

THE 1985 U.S. NATIONALS

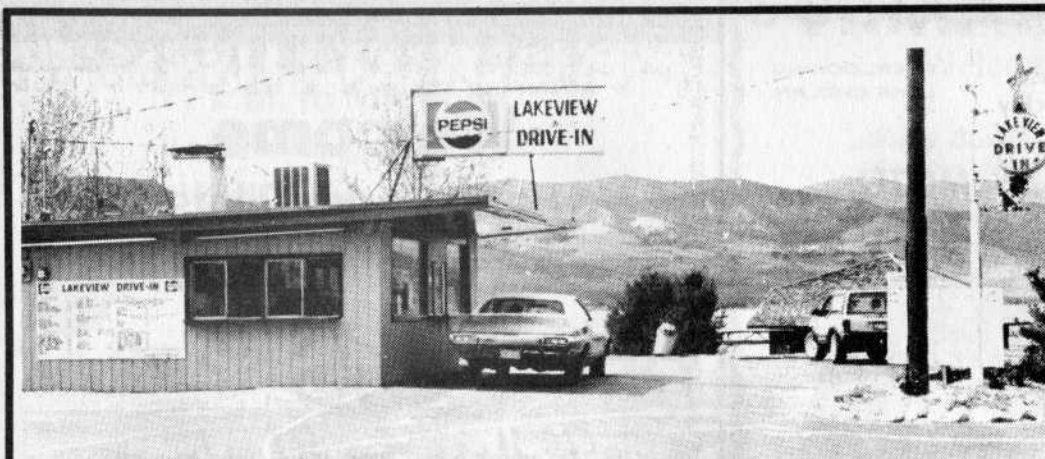
in

Chelan, Washington

Pages 17, 18, & 19 carry U.S.
Nationals Program advertising.

Participants, friends and
spectators are encouraged to
patronize these supporters of the
1985 U.S. Nationals Program.

— The Editors
and
Organizers



Located next to Lakeshore Park
above the Marina on the Manson Road

Lakeview Drive-in

Mike & Deb Mack

Order To Go (509) 682-5322

OPEN 11 a.m.
Every Day

on Lake Chelan

A COMPLETE MENU

Your Choice of:

- All Beef Burgers
- 7 Different Sandwiches
- Chicken: Reg. or Boneless Chicken Sandwich
- 4 Seafood Items
- 3 Types of Salads
- Tacos and Burritos
- Soft Drinks & Shakes
- Corn Dogs • Hot Dogs
- Soft and Hard Ice Cream - Lots of Flavors



FAMILY DINING

Featuring

Home Made Pies

Open daily
from 6 a.m. until 10 p.m.



★ Steaks ★ Chicken ★ Burgers

Breakfast . . . Lunch . . . Dinner

Fast, courteous service

Apple Cup Cafe

On E. Woodin Ave., Highway 97 Chelan, Ph. 682-5431

Roy and Jean Pitts

A Golden Opportunity

Golden Memory 1 Hour Photo is offering
the chance of a lifetime!

Besides bringing in your rolls of film for
quick, easy service during your stay here
in Chelan, we are now offering personal
postcards* of you in hang gliding
action during the competition.

Don't miss out! Come see the
professionals and make your
stay at Chelan a Golden
Memory.


**Golden Memory
1 Hour Photo**

313 E. Woodin Ave.

Open Mon.-Fri. 10-5 Sat. 10-4

509/682-2671

*110 and 135 only




OVERLOOKING
LAKE CHELAN

PARKWAY MOTEL
COLOR TV KITCHENETTES
OPEN YEAR AROUND

Welcome Hang Glider Pilots

WES & MARCELLA CROSSLEY P.O. BOX 1237
509-682-2822 CHELAN, WA. 98816

**Welcome
Hang Glider Pilots**



Kelly's Ace Hardware

**"Home of the Smiling Irishmen"
Everything For The Outdoors**

Downtown Chelan, Wash.

(509) 682-2815

GROCERIES
• Gas • Oil • Ice
• Coldest Beer & Pop
A complete grocery store to pick up your vacation needs and cold beverages



SHELL OIL PRODUCTS
...and a variety of other oil and gas products

ICE CREAM
FISHING SUPPLIES
Hunting & Fishing Licenses

PARKING AVAILABLE
*Cars *Boats *Trailers *Campers
Daily to monthly rates

Miniature Golf
Open Daily

Welcome Glider Pilots!

Owners - Pat & Ruth Manners
Open 7 a.m. to 11 p.m. Daily
PAT and MIKE'S
South Shore Road at Highway 97, Chelan 682-2841

Welcome Hang Glider Pilots



**UNCLE BUB'S
Restaurant**

Breakfast
Sat. & Sun.
Open Mon. - Fri. at 11 a.m.
Sat. 8 a.m. Sun. 10 a.m.

Family Dining Cocktails
Live Music & Dancing
Fri. & Sat. Nights — 9:30 - 1:30
Lounge Open 'til 2 a.m.
502 E. Woodin Ave. "Uptown Chelan"

START DREAMIN'

Here's two special opportunities.
So special you'll have to act quickly...
before they're gone.

Two Delta Wing DREAMS, both with
light demo use (involved in **Whole Air** evaluations).

Dream 180 — only **\$898** (save \$697!)
Dream 160 — only **\$899** (save \$696!)

Write P.O. Box 98786, Tacoma, WA 98498-0786
or call **206/588-1743**

AT BELOW DEALER COST!



FIRST CLASS SINCE THE BEGINNING
JOHN S. "1978"

☆ Flier Portraits, Family Portraits
☆ Overnight C-41 & E-6 Processing
☆ Video Production

139 E. Woodin Ave.
Chelan, WA 98816
(509) 682-5367



**Open Every Day
7 a.m. to Midnight**

Welcome Hang Glider Pilots

- Ice Cold Beer • Pop • Groceries • Ice
- Sandwiches • Wine • Gatorade
- Beach & Picnic Supplies
- Gasoline • Diesel



LAKESIDE GROCERY
Located at the base of the Butte Rd.
Call 509/682-2741

PARK LAKE RESORT MOTEL

- Furnished Housekeeping Cabins
- TV - Air Conditioning
- Private Beach & Dock Adjoining Lakeside Park
- Daily & Weekly Rates Available

A Family Resort at the Base of the Chelan Butte Road
Phone: **(509) 682-2834**

SHIP 'n SHORE DRIVE INN

Boat Rentals & Dinner Cruise

Family Dining on the Dock . . . Come by Boat or Road
See the Ducks and Fish

Burgers, Chicken Fillet, Taco Salads,
Soft Ice Cream, Shakes, etc.

Next to M & M Marina & Shops 509/682-5419
Halfway between Chelan and Lakeside on South Shore Highway 97

**Mr. J's
LANE
ELEVEN
CASUAL DINING**

Where all the Hang Glider Pilots Eat

518 North Manson Road
Chelan, WA 98816 509/682-2251

Welcome Glider Pilots

Mary Kay's




**WHALEY
MANSION**

Bring Someone You Love to Mary Kay's Whaley Mansion Bed & Breakfast Inn

Overlooking Lake Chelan

Rt. 1 Box 693
415 Third St.
Lake Chelan, WA 98816
509/682-5735



THE CROCKERY

Steak & Seafood House

- Steaks
- Seafood
- Salad Bar

Breakfast—Lunch—Dinner

Where the Gider Pilots Meet

Good food and a genuine relaxing atmosphere

- Wine • Imported & Domestic Beers

Open 6 a.m. — Serving Dinner 5 p.m.
Open 7 Days A Week

Located in downtown Chelan at
114 N. Emerson across from Post Office
682-5925

THE WELCOME

1985 Chelan Nationals



June 11, 1985

Mark Kenworthy
17630 162nd Place SE
Renton WA 98058

Dear Mr. Kenworthy,

It is with great pleasure that I welcome hang glider pilots, their families and friends to Chelan for the National Hang Gliding Championships.

I have been told that this is one of the best locations for the sport in the world and we think that is great. The popularity of flying off of the Butte is increasing rapidly and the flight times and distances surely contribute to the notoriety of our area for flying.

I have had vast opportunity to meet with pilots that use the Butte for their sport and I can say without reservation that they are a great bunch of people, dedicated to their sport and the safety of same.

We of the Chelan valley wish to all of you the safest and longest flights ever, and again welcome you to our beautiful Chelan Valley.

Sincerely,

EARL R. GORS,
Mayor

rw

P. O. Box 1669 Chelan, Washington 98816

City Hall 682-4037

Park 682-5031

Golf 682-5421

THE EVENT

1985 Chelan Nationals

NEARLY EVERY COMPETITIVE SPORT with national participation has a contest on some regular basis that attempts to determine which of the opponents is the very best in the country for a given period of time. Hang gliding is no different.

The hang gliding U. S. Nationals dates back to 1974, only a year or two after the sport was "born." Since that formative event eleven years ago, a championship has been held yearly, and sanctioned by the national organization - the USHGA, or United States Hang Gliding Association.

statement. Observers close to any meet can attest to the deep concentration of competitors, to the concern over fair judging, to the need for clarity of the rules, and to the disappointment when one flyer feels wronged by the system, rules, judgements, or other facts of competition which may have dropped them to a lower standing than they felt they earned.

But the Nationals are not only concerned with the fairness of the meet, or even with the meet itself.

The Nationals is also a time of gathering.

world. It is primarily a convention for those persons, though it offers airshow entertainment for the general public which attends in large numbers.)

So, the Nationals is an institution. One such that is highly regarded by hang glider pilots the world over, and one that continues as a standard bearer for American hang gliding. Out of it is chosen our National Champion, and from it comes further competition points that aid in the selection process which chooses the U. S. World Team. This latter group travels to the World Meet, a biennial championship which attempts to pick the very best pilot in the world



photo by Sherry Kinder - McKinn

The event has changed dramatically (see "The Competitions," page 25), but the idea has not. The amateur-style meets have aimed at locating the one best pilot to reign as National Champion for the year following the contest. While indeed not all pilots who have competed have been true amateurs, the meet remains in that class, as no cash awards are offered, and as many or most of the pilots involved are genuine amateurs who fly hang gliders strictly as a hobby. That, however, does not mean that they do not take it seriously.

In every year of the U. S. Nationals, gliders have changed, the rules of competition have changed, the actual tasks flown by the flyers have changed, and - perhaps most importantly - the knowledge, skills, and general awareness of the pilots have changed. Some say it is "American" to be keenly competitive, and hang glider pilots strengthen that

Due to geographical separations involved, hang glider pilots in this vast country of ours cannot always meet the famous pilots, or visit with other pilot/friends, or merely immerse themselves in a throng of the "true believers" of silent free flight. The Nationals carries enough prestige, and occurring only once per year, is infrequent enough, that also considering its (usually) summertime dates... pilots from all over America plan ahead with their vacation time so as to attend this primary event in the hang gliding world. Other contests may offer large cash purses, or bring in foreign competitors, or have other appealing attributes, but the Nationals remains as an event to "make," at least every now and then. For those familiar with other aviation events, the U. S. Nationals is the "Oshkosh" of hang gliding. (For those readers not familiar with the Oshkosh event, it is the largest gathering of sport aviation enthusiasts anywhere in the

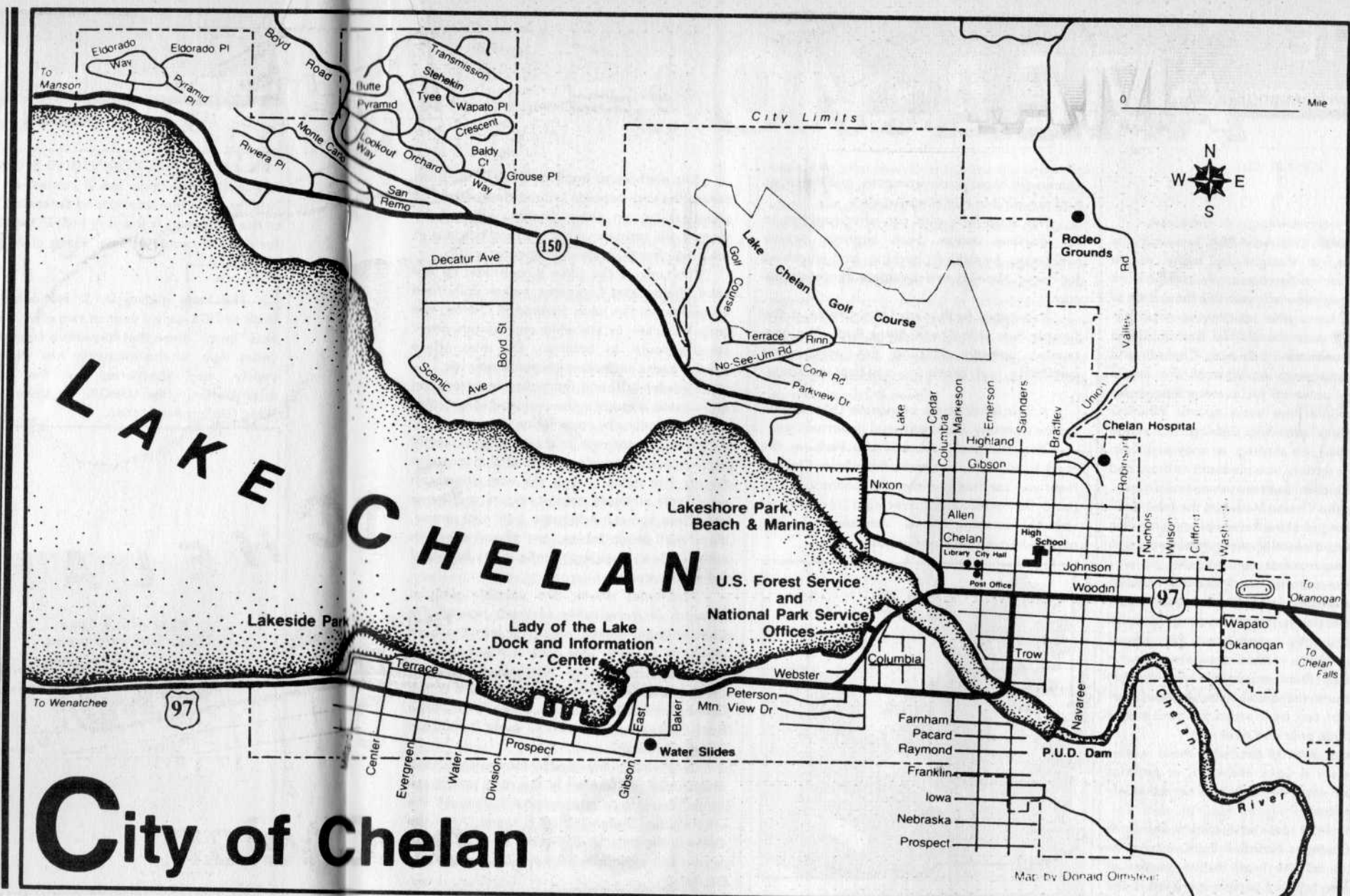
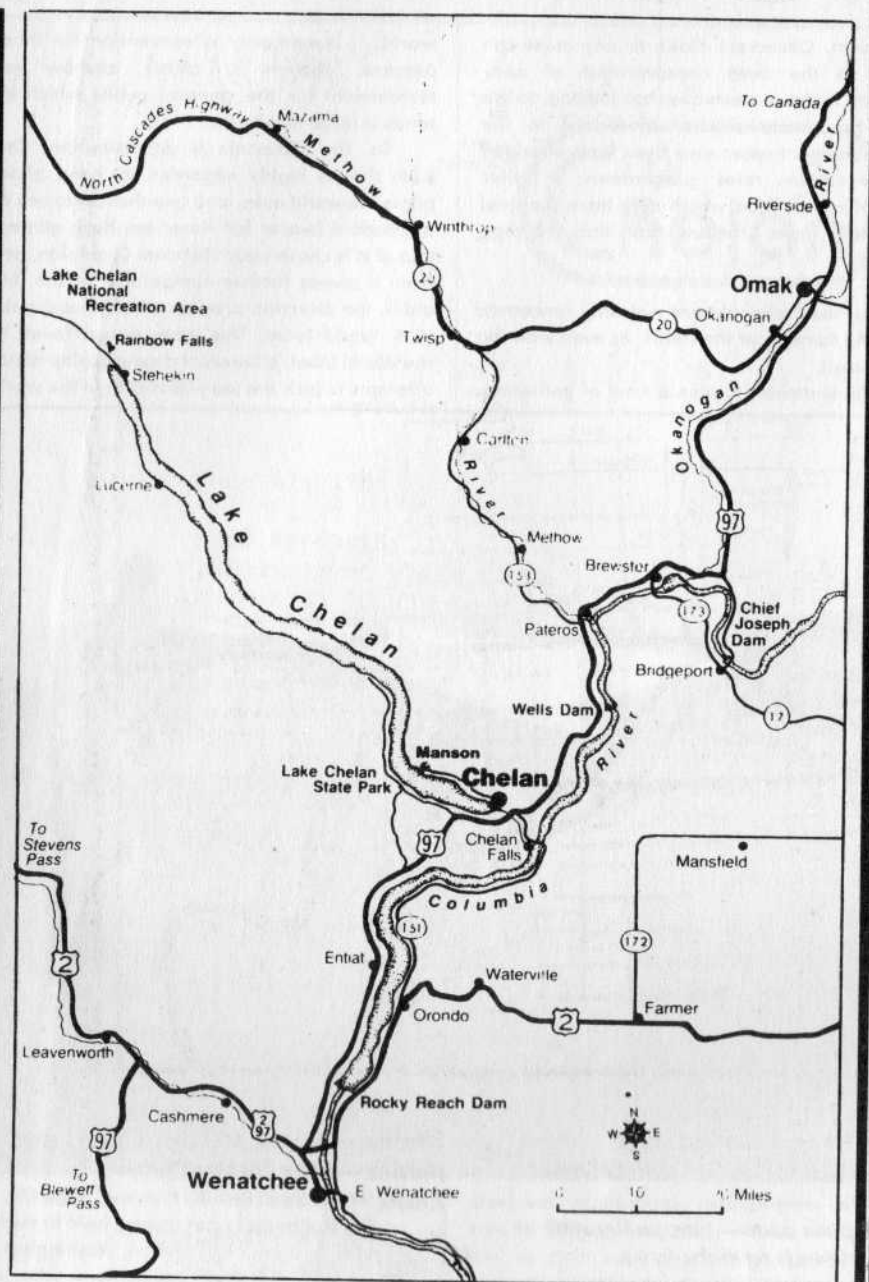
(see "World Meet Results Preview" page 18).

The Nationals is not always held in such a desirable location as in Chelan, Washington. In 1985, pilots and their companions who will attend the competition can discover the many other opportunities in and around Lake Chelan (see elsewhere in this issue for information about the area, and things to do and see).

Those who could attend this 1985 Chelan Nationals are fortunate; they can rub shoulders with the famous in the sport... they can visit with flying friends who they may not have seen for months or years... they can fly an excellent site... and they can enjoy all that Chelan offers. Those who could not make this year's event can read this program, sensing some of the excitement, and dream their plans for the 1986 or later United States Nationals.

The Nationals are indeed a "must" event... at least once.

Welcome!



LAKE CHELAN

City of Chelan

Lake Chelan Valley Special Events

- Hang Gliding Championships**
July 5 - 7 — Chelan Classic/Chelan Butte
- July 13 - 21 — National Championships /Chelan Butte
- Lake Chelan Bach Feste - Tricentennial**
July 26, 27, 28 — Evening concerts/

- Chelan Methodist Church
Saturday matinee/Masonic Temple
Sunday matinee/Lakeshore Park
Juried Art Show/Masonic Temple
- WRA Chelan Rustlers Rodeo**
July 26 - 27 — Rustlers Rodeo/Chelan Rodeo Grounds
Pancake Breakfast/Chelan Rodeo Grounds
Parade/Downtown Chelan
- Lake Chelan Junior Rodeo**
August 1, 2, 3 — Jr. Rodeo/Chelan Rodeo Grounds

Pancake Breakfast/Chelan Rodeo Grounds

Labor Day Wapato Point Run
September 2 — 1.9 mile and 10K runs/ Manson

Lake Chelan Harvest Festival & Appleknockers Jubilee
September 7, 8 — Appleknocker Trots, pancake breakfast, Not So Grand Parade, Bin Race, Appleknocker Bake-Off, arts & crafts exhibits, apple shed competitions, food concessions, games, square dancing, marathon, canoe race, junior events, variety show/Chelan

Lake Chelan Sailing Regatta
September 27, 28, 29 — Sailing Regatta/Lake Chelan movies, video, BBQ/Campbell's Lodge

Special Attractions

- St. Andrew's Episcopal Church** — a log church built in 1898/Woodin Avenue
- Campbell House** — built in 1901/Woodin Avenue
- Charles Whaley House** — built in 1890's/Woodin Avenue
- Whaley Mansion** — restored/South Chelan
- Little Stone Church** — built 1901/Lakeside
- Chelan Butte Lookout** — U.S. Forest Service/Chelan Butte
- Bus Tragedy Monument** — 8 miles from Chelan/Southshore
- Lake Chelan Dam/Chelan Falls** — gorge spillage from the lake into the Columbia River; bridge on Highway 151
- Chelan Museum** / Woodin Avenue
- Indian Burial Grounds** / Manson
- Lady of the Lake** — boat trips uplake with stops at several points/Lake Chelan Boat Company

- Wells Dam** — Vista Point Indian pictograph/13 miles north of Chelan on Highway 97
- Rocky Reach Dam** — Lincoln Rock/30 miles south on Highway 97
- South Shore Drive** — to 25 Mile Creek on the South Shore
- Navarre Coulee scenic drive** / above State Park on South Shore

Recreational Entertainment

- Chelan Municipal Golf Course** — 18 hole PGA championship course
- Miniature Golf** — Lakeshore Park
- Tennis** — Lakeshore Park, school grounds at Manson and Chelan
- Baseball and softball** — Chelan and Manson

- Bowling** — one 10 lane alley/Chelan Lanes
- Movies** — Ruby Theater/Chelan
- Boating**
- Bumper Boats** — Lakeshore Park
- Skiing** — water and snow
- Fishing** — Lake Chelan, Roses, Wapato, and Dry Lakes/Chelan and Manson
- Hiking**
- Pack Trips**
- Camping**
- Sight Seeing**
- Snowmobiling**
- Cross Country Skiing**
- Picnicking** — Lakeside, Lakeshore and State Parks
- Jet Skis**
- Paddleboats**
- Flying** — Chelan Municipal Airport/4 miles north of Chelan on Highway 97
- Waterslide** — Slidewaters Lake Chelan

THE AREA

1985 Chelan Nationals

THE BEAUTIFUL CHELAN AREA, known for its mild climate, is thought by many to be equivalent of picturesque Switzerland in Europe. It is visited each year by thousands of vacationers from the northwest and increasingly all over the United States. These seekers of leisure trek to Chelan and surrounding areas to partake of the ample sunshine and potential for summertime water sports and wintertime snow sports. Whether boating, sailing, canoeing, fishing... or skiing (water or snow), ice skating, or snowmobiling, Chelan offers variety in a pleasant setting, and enough sun to perk up those who need it most.

Deep in the Chelan Valley is the lake itself - a 55-mile long stretch of clear blue water. The deep lake was created thousands of years ago by glacier movements, and hooks its way through tall mountains which provide habitats for many species of wildlife and birds. Especially pleasing is the mountain goat which is not frequently seen by the casual vacationers. These nimble creatures can be spotted doing their mountain crag-hopping routine by boaters who sail Lake Chelan. Other creatures that can be viewed by travelers of the lake include bear and deer.

The destination of many of these waterborne travelers is Lake Stehekin, or perhaps Lucerne, both small communities served solely by boat or aircraft.

Past the little town of Stehekin one finds the North Cascades National Park, a complex that extends all the way to the border of Canada. Also included in this complex is the Lake Chelan National Recreation Area, which is situated at the northernmost part of the lake itself.

West of Lucerne, on up Railroad Creek Valley and surrounded by Glacier Peak Wilderness area, is Holden Village. This public retreat is affiliated with the Lutheran, but was once owned by the Howe Sound Mining Company. It can accommodate some 300 guests during its summer operation period.

The U. S. Congress allowed for another wilderness area in a 1984 decision. The Lake Chelan-Sawtooth Wilderness spreads along a good portion of the north shore of the lake. The Glacier Peak Wilderness Area added land on the opposite side of Lake Chelan in this congressional move. By so voting, the government ensured the preservation of much natural beauty in the vicinity.

Lake Chelan State Park is a scant nine miles from the city of Chelan. Camping is available on an overnight basis; advance bookings are required. The Park offers some 144 campsites, and reports these are usually reserved well before the commencement of the season. Some 72 locations are trailer slots,

some with hookup conveniences, and the other half are walk-in tent camping slots.

The State Park also can offer facilities for daytime usage. Such services include swimming, picnicking, parking, and launching for boats. Showers are available at reasonable cost.

Somewhat further up Lake Chelan is the Twenty-Five Mile Creek State Park. The concession operator running this park offers swimming, fuel, groceries, and boat launching.

A few other parks alongside Lake Chelan create a variety of recreational opportunities.

The first such is Lakeshore Park on the road to Manson, but near downtown Chelan. Here you can find launches for boaters, ample room for picnicking, overnight recreational vehicle camping, and amusements like miniature golf and bumper boats.



photo by John Stevens

The second is Lakeside Park on Hwy. 97 (see maps, pg. 22 & 23), south of Chelan. Here campers will enjoy shady grass areas, with a wading beach that benefits family activities.

Opening in 1985 is the Manson Bay Park. It boasts a public dock and swimming just off the downtown area of downtown Manson. This convenient location for boaters brings the shops of Manson close, and the construction included a walkway promenade with a pretty view.

The fourth is near Manson as well, called the Old Mill Park. It too, offers boat launching, parking, restrooms, and plenty of area for picnics on a twenty acre site.

These last two park developments were undertaken by the PUD as part of the license PUD received for hydroelectric power production. Involved with this same agreement, additional construction is taking place at Chelan's Riverfront Park. Scheduled to be completed in 1986, this new work will bring a promenade on both sides of the Chelan River (between the town's two bridges). Also, the construction will bring more restroom facilities, plus picnic tables, benches, and boat launches.

This plethora of boat launches in the area serves the very popular summertime activity of water skiing on Lake Chelan, enjoyed by visitors and residents alike. Several marinas in the area offer ski boats and gear for rent.

The Lady of the Lake II, operated by the Lake Chelan Boat Company, makes daily runs up and down the lake. Docked in Chelan, the Lady II cruises to Stehekin and various other stops enroute. In addition, the area offers charter boat and charter seaplane services.

In order to spend more than an afternoon at Stehekin, a lodge in the secluded resort offer accommodations by reservation.

If you do not wish to go via boat, a county highway meanders along Lake Chelan for some twenty five miles. Along the way riders can note apple orchards, tourist resorts, and many attractive homes. Adequate pull over areas, some with picnic tables, are placed near the lake for those desiring to take in the beautiful Swiss-like scenery.

Additional drives are possible with a network of many miles of roads around the Chelan Valley which reach up into the high mountain country. One such is the road from 25-Mile Creek to the Ramona Park Campgrounds, a secluded spot on the bank of the Creek. Even farther along is the Slide Ridge Road, affording the path to giant 7,200 foot Stormy Mountain.

Highly recommended by local experts, and much closer to Chelan is the road up Chelan Butte. From here a spectacular view of the whole Lake Chelan Valley is found. Atop the Butte is the only U. S. Forest Service lookout tower still maintained by the Chelan Ranger District.

Only in 1985, a very special opportunity awaits drivers of the Butte Road, as the United States Hang Gliding Association 1985 National Championships will be held, from the 13th to 21st of July. While hang gliding can be seen from the lake area itself, the launches of hang gliders is felt to be truly thrilling by spectators and the pilots alike. This graceful activity takes place all year from Chelan Butte, but in the summer months the number of flyers increases dramatically - it is frequented in large droves by the sizeable flying community in Seattle, about three hours drive away. In mid-July the country's best pilots will converge on the Butte (see various other reports in this special program issue).

Other points of interest within just a few miles of Chelan include two dams located near the Columbia River-Rocky Reach area. Drivers will pass the Rocky-Reach Dam enroute from Wenatchee. The Wells Dam is situated north of Chelan as one drives to the Okanogan area.

This still is not all! To get directions and guidance on more activities in the area, contact the Lake Chelan Chamber of Commerce or the Forest Service.

THE CONTEST

1985 Chelan Nationals

By Kenny Brown

*With a burst of speed and much determination,
we propel ourselves down a hill and into the sky,
to join the space where eagles fly.
In time, gravity wins,
and there we stand with a silly grin.*

THIS POEM PRETTY MUCH wraps up the essentials of hang gliding. But not completely. Through the years hang gliding has advanced from simple falling glides to the bottom of three hundred foot hills, to spectacular altitude gains of 10,000 feet, to soaring flights lasting over twenty four hours, and to distance coverage of well over 200 miles.

Many hang glider pilots seem to be competitive by nature. Contests and competitions have changed greatly since the early days, and through competition the sport has evolved.

Early competitions were mainly a test of who could stay up the longest. Takeoffs were critical, not so much for reasons of safety, though that entered in, but because a poor launch could result in a loss of precious altitude. Early low performance wings would soon flap from the sky, skimming low and flying slow. To add spice and spectator appeal to the competition, landing spots were marked and extra points given for landing accuracy.

The gliders were developed that would sink slower and fly faster. Simple duration contests were no longer a valid test of skill. Pylons - ground locations marked by flags or poles - were set, requiring greater pilot skill to maneuver these new, higher performance craft around the pylons. Additional points were given for 360 degree turns (full turns till headed the same direction again). Still, the contests were rudimentary by modern standards.

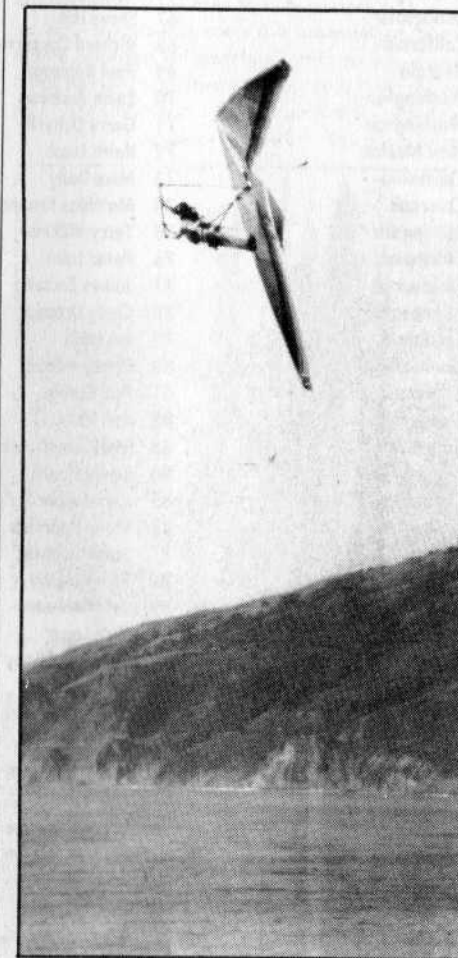
ONE-ON-ONE

Before long, though, pilots who were organizing and flying in competitions decided a need existed to eliminate a large variable in the scoring. Due to the inconsistency of weather conditions - which can change radically in a short period of time - some pilots would be blessed with warm upward-rising air currents while others struggled through slowly sinking air, a considerable disadvantage thereby. The obvious solution was to fly in the same general conditions as one's opponent; thus "one-on-one" competition was born.

One-on-one allows for two pilots to launch at the same time. They then fly around a given course, competing against each other as they race around the pylons. The pilot who arrives first at the greatest number of pylons wins that

heat. This pilot then flies against the winner of another heat. In this manner pilots are eliminated until only one winner remains. Most consider this a very valid method of determining a winner.

In time, one-on-one became an extremely competitive format. Pilots would use aggressive flying tactics to intimidate their opponent, thus gaining an advantage by means other than simply outflying him or her. One-on-one remains one of the most valid methods of judging a competition, but contest formats have continued to evolve.



CLOSED-COURSE RACING

Total speed races are run on small closed courses and require good soarable conditions to accomplish the tasks in record times. Here, the pilot is racing a clock which starts when his or her feet leave the ground and stops when he or she flies through an aerial "gate." This type of race is a good test of pilot skill and glider performance.

AEROBATICS

Aerobatic competitions test a pilot's expertise and knowledge of every aspect of flying. The judges look for safety, style, coordination, and overall smoothness as the pilot puts his or her glider through a series of stalls, loops, spins, dives, rolls, and many combinations of these maneuvers (see "The Aerobatics," page 34). For obvious reasons this type of competition is restricted to the very best pilots.

CROSS COUNTRY

Flying cross-country (X-C) tasks is a test of pilot skill, determination, and endurance. Often pilots are in the air for more than five hours, working any bit of lift that will take them that extra mile away from where they started. Great mental concentration and physical endurance is required in any long X-C flight. Cross-country meets are scored by measuring the distance each pilot flies each day of the competition - usually a straight line from the take-off point to the landing point - and totalling each pilot's distance for the entire meet.

RACING TO GOALS

Race to goal competitions - such as the format being used in the 1985 U. S. Nationals Championships in Chelan - force pilots to race against a clock. Again, the time starts when the pilot's feet leave the ground, and stops when he or she flies through a finish gate, located up to 100 miles from the take-off point. Total Elapsed Time (TET) scoring takes each pilot's time for each day of the competition and adds them together. At the end of the meet, the pilot with the lowest time wins.

GETTING MORE INFORMATION

Because this short description of modern hang glider competition may have just whet your appetite, you can obtain more information on the exact goings-on of this 1985 Nationals by asking any pilot at launch or in the landing area. A pilot actually involved in competition will be keenly aware of the objectives, of the progress of the day, of the standings as last compiled, and have some idea of the outcome as the meet continues. But, be advised that these competing pilots are deeply into concentrating on their goal of doing the best they can. It may take them a second to collect themselves enough to answer questions. Other than that, ask away. Most pilots love talking about their sport.

THE COMPETITORS

1985 Chelan Nationals

The numbers for each pilot will appear on their sail (wing) during the 1985 Chelan Nationals. When observing, matching that number to this list will help identify the pilot flying.

U.S. WORLD CLASS

NO.	NAME	CITY	STATE
01	Rick Rawlings	Santa Ana	California
03	Rich Pfeiffer	Santa Ana	California
04	Rob Kells	Santa Ana	California
05	Chris Bulger	Mercer Island	Washington
11	Jeff Huey	Anchorage	Alaska
12	Kenny Brown	Mercer Island	Washington
13	Howard Osterlund	Campbell	California
19	Lee Fisher	Seattle	Washington
20	Bruce Case	St. Paul	Minnesota
21	Steve Luna	Alta Loma	California
25	Matthew H. Wagner	Stone Mountain	Georgia
31	Kevin Bye	Federal Way	Washington
32	Dave Little	Bothell	Washington
33	Jim Lee	Albuquerque	New Mexico
34	Brant Hoffman		California
35	Patrick Leach	Pueblo	Colorado
36	John Woiwode	St. Paul	Minnesota
37	Scott Greenwalt	Oklahoma City	Oklahoma
38	Steve Mikalik	Oklahoma City	Oklahoma
39	Bill Cummings	Hoyt Lakes	Minnesota
40	Joe Greblo	Van Nuys	California
41	Ben Davidson	Winsted	Connecticut
42	Allegra Davidson	Winsted	Connecticut
43	Pete Lehmann	Pittsburgh	Pennsylvania
44	Rick Jacob	Ooltewah	Tennessee
45	Robert Killingsworth	Stuarts Draft	Virginia
46	Doug Lawton	Duluth	Georgia
47	Greg DeWolf	Venre	California

Some competitors are not listed as their entry application was not received by press time (7-1-85).

INTERNATIONAL WORLD CLASS

NO.	NAME	CITY	STATE
51	Rick Duncan	Australia	
52	Steve Moyes	Australia	
53	Randy Haney	Canada	

54	Derrek Wong	Canada
55	John Pendry	England

Some competitors are not listed as their entry application was not received by press time (7-1-85).

SPORTING CLASS

NO.	NAME	CITY	STATE
61	Mark Kenworthy	Renton	Washington
62	Jon Dawkins	Seattle	Washington
63	John Elliott	Seattle	Washington
64	Dan Uchytel	Seattle	Washington
65	Doug Johnson	Duluth	Minnesota
66	Tip Rogers	Knoxville	Tennessee
67	Steve Hill	Long Beach	California
68	Richard Cassetta	Sacramento	California
69	Paul Robinson	Ontario	California
70	Eddie Andrews	Denver	North Carolina
71	Gerry Uchytel	Seattle	Washington
72	Keith Lamb	Sun City	California
73	Mike Daily	Everett	Washington
74	Matthias Krantz	Salt Lake City	Utah
75	Terry Wilkins	Alta Loma	California
76	Peter Luke	Canada	
77	James Zeiset	Salida	Colorado
78	Cindy Drozda	Boulder	Colorado
79	Ian Huss	Boulder	Colorado
80	Randy Adams	Stockbridge	Massachusetts
81	Rob Corbo	Dover	Massachusetts
82	Ron Hess	Los Gatos	California
83	Mark Bourbonnais	Canada	
84	David Henly	Sausalito	California
85	Christopher Ballinger	Kensington	California
86	Steve Roderick	Reno	Nevada
87	Stephan Bates	Lake Hiawatha	New Jersey
88	Rich Grigsby	Van Nuys	California
89	Jeff Bennett	Chugiak	Alaska
90	Rich Sauer		California
91	Bruce Mahoney		
92	Phillip Pask	Garland	Texas
93	Sergio Magistri	San Francisco	California

Some competitors are not listed as their entry application was not received by press time (7-1-85).

THE CITY

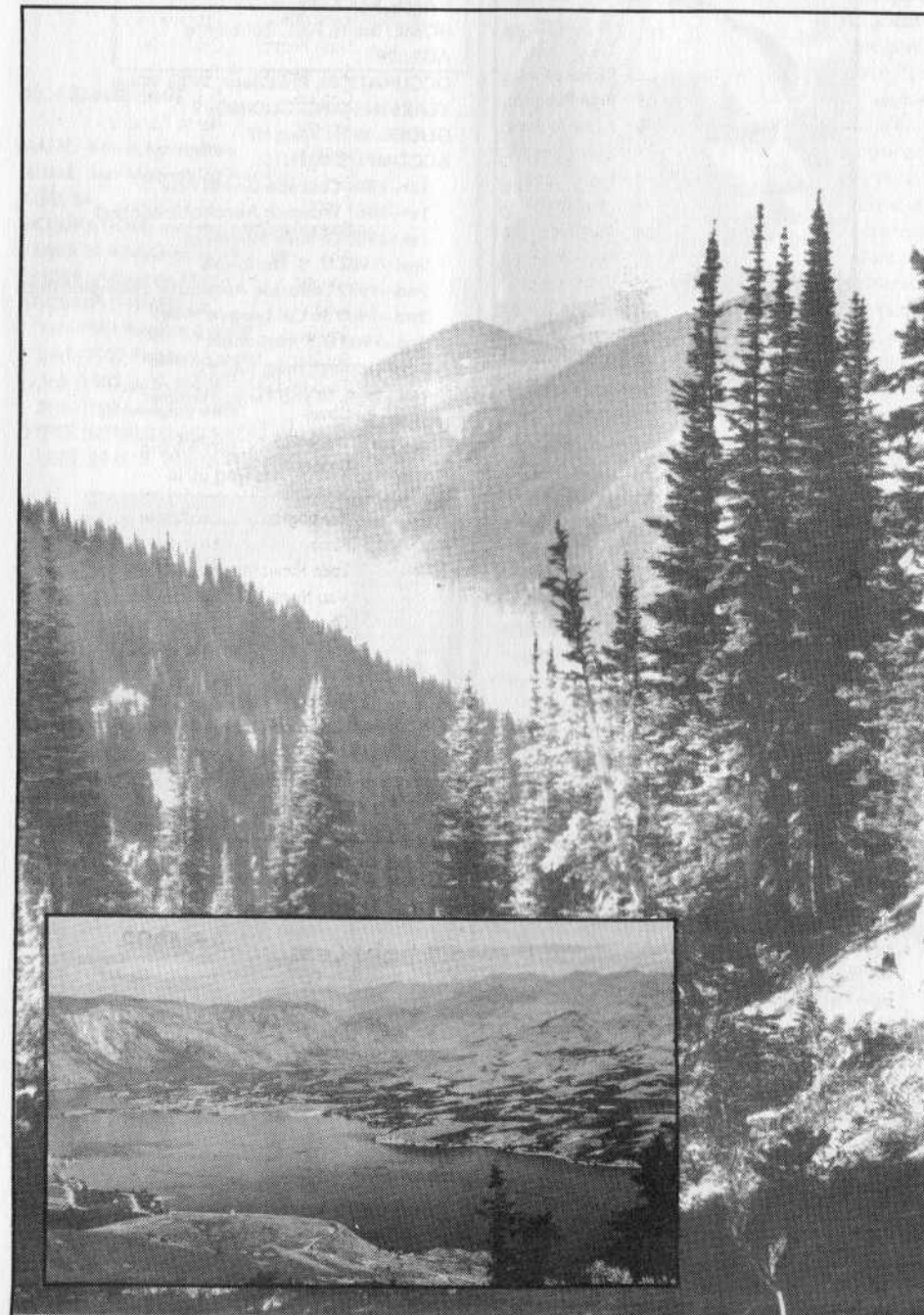
1985 Chelan Nationals

SITUATED ON THE south end of the 55-mile long Lake Chelan in Chelan County is the city of Lake Chelan, site of this year's U. S. Nationals Hang Gliding Championships.

Served by U.S. Highways 97 and Washington state highways 150 and 151, Lake

Chelan is some 170 miles southeast of Seattle, 168 miles west of Spokane, and a mere 100 miles from the Canadian border. Chelan sits at 1100 feet above sea level.

An interesting fact is that the most successful pilots in the Hang Gliding Championships may travel a good part of the distance toward Spokane, all without any auxiliary power, using just the lift offered by Mother Nature. If the right weather conditions materialize, it is not unthinkable that some



superior performance may have a competitor soar right past Spokane and into Idaho (see "The Records," page 28).

Chelan's population has showed steady if unspectacular growth. In 1940 1,738 persons called Chelan "home;" by the 1950 census, the number hit 2,157; in 1960, 2,402; in 1970, 2,430; and the 1980 census reported 2,802. In the Chelan division, which area takes in the surrounding area - "greater Chelan" - the '80 census put the total at 4,433.

The small village of Manson lies only nine miles north of Chelan, and this unincorporated town counts a population of 1,861 by the 1980 census.

The Chelan area boasts twenty motels offering over 300 rooms and several cottages. Plus four mobile home courts and a city-owned trailer park with 160 hook-ups add to the total. Three banquet and/or meeting facilities are available for groups up to 200 persons.

One general hospital with 28 beds serves the medical needs of the area and its visitors. Additional duties are performed at a clinic with four physicians and four dentists on duty.

One Catholic, one Latter Day Saints, and 14 Protestant churches handle the spiritual or counseling needs of the community.

Lake Chelan shines in recreational facilities of many descriptions. The Lady of the Lake II, operated by the Lake Chelan Boat Company, runs up and down the length of Lake Chelan on a daily schedule offering an easy and enjoyable way to view the scenery of Lake Chelan Valley, likened to Switzerland's beauty. It also provides the only regular transportation on the lake, going to and from Stehekin and other points. Three marinas offer power boat launches, while three other areas give trailer-launched ramps. Additional boating equipment includes motorcraft, rowboats, canoes, jet skis, paddle boats, and sail boats.

In the summer in Chelan, visitors can enjoy miniature golf, scuba diving, camping, hiking, swimming, and amusements such as water-slides, parasailing, hang gliding, bumper boats, go-karts, and of course in Chelan's warm summer sun, sun tanning and therefore people-watching.

Chelan's winter time activities include alpine snow skiing at Echo Valley, plus snowmobiling, cross-country skiing, and ice skating.

Fishermen and women will enjoy year-round chances to fish on Lake Chelan, and at other times during the year on smaller lakes in the area.

Entertainment facilities other than those mentioned above include one theater, an 18-hole PGA rated golf course, two lighted tennis courts, two athletic fields, baseball or softball diamonds, a youth center, two parks, a bowling alley, a children's playground area, and an indoor firing range. Besides sightseeing in the area of the lake, two state parks and one national park use its shores.

The former wilderness area has good access plus U. S. Highway 97 and state highways 150, 151, and 153 make access by auto direct and simple. Following highway 150 for nine miles north of Chelan will bring motorists to Manson.

photo by Sherry Kindel - McMinn



PACIFIC NORTHWEST HANG GLIDING INSTRUCTION

Introductory Flight Lesson \$60⁰⁰
Modern Trainers & All Safety Equipment Included

New & Used Gliders Parts & Equipment



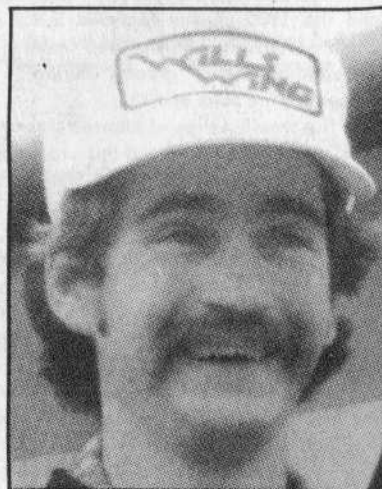
Welcome to Chelan

PACIFIC NORTHWEST HANG GLIDING
P.O. Box 296 • 17 S. Butte Rd. • Chelan, WA 98816
Buck McMinn 509/682-5207
Located at the Base of Chelan Butte

THE TOP TEN

1985 Chelan Nationals

1



NO. 1 RANKED PILOT

NAME: Rick Rawlings
HOME: Sylmar, California
AGE: 28
OCCUPATION: Machinist
YEARS IN HANG GLIDING: 6
GLIDER: Wills Wing HP
ACCOMPLISHMENTS:
1st--1984 So Cal League meet
1st--1983 Region 3 meet
2nd--1983 So Cal League meet
2nd--1984 Canadian Nationals
3rd--1983 U. S. Nationals
OTHER INTERESTING FACTS:
1985 U. S. World Team member
1983 National Points Champion
1982 Texas Cup Champion
HOBBIES:
golf

2



NO. 2 RANKED PILOT

NAME: Stew Smith
HOME: Boone, North Carolina
AGE: 38
OCCUPATION: Ski Instructor/Pilot
YEARS IN HANG GLIDING: 11
GLIDER: Seedwings Sensor 510

ACCOMPLISHMENTS:

1st--1983 So Cal League meet
1st--1984 Region 10 meet
2nd--1983 Masters
2nd--1983 World Championships
3rd--1984 So Cal League meet

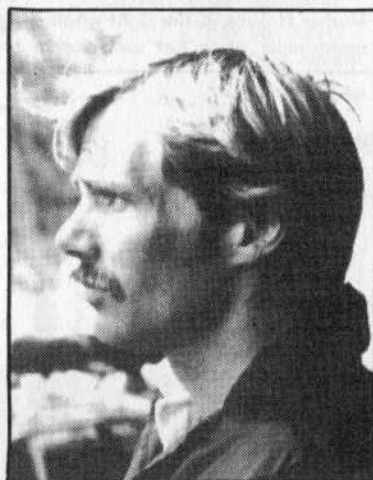
OTHER INTERESTING FACTS:

1985 U. S. World Team member
1984 U. S. Nationals Champion

HOBBIES:

skiing, bicycling, running, gymnastics

3



NO. 3 RANKED PILOT

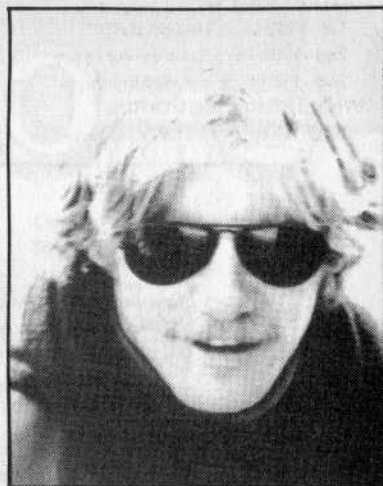
NAME: Rich Pfeiffer
HOME: Santa Ana, California
AGE: 31
OCCUPATION: Master Parachute Rigger
YEARS IN HANG GLIDING: 7
GLIDER: Seedwings Sensor 510
ACCOMPLISHMENTS:
1st--1984 U. S. Nationals ***
1st--(team of) 1984 So Cal League meet
1st--1982 U. S. Nationals ***
1st--1982 So Cal League meet
1st--1981 U. S. Nationals ***
1st--1980 X-C Classic
1st--(team of) 1980 American Cup
1st--1979 X-C Classic
2nd--1981 World Meet
OTHER INTERESTING FACTS:
1981, 83, 85 U. S. World Team member
1979-1982 National Points Champion
1st--1977 & 78 U. S. Parachuting Nationals
Holder, several world parachuting records
HOBBIES:
sky diving

Facts Compiled by Mark Kenworthy

Photos: Smith, Pfeiffer, Kells, Bulger, Kernohan, Bennett by Doug Barnette; Tudor by Pete Brock; Pearson, Blythe by Bettina Gray (from Hang Gliding magazine).

(*** indicates members of this group that are former U. S. Nationals winners)

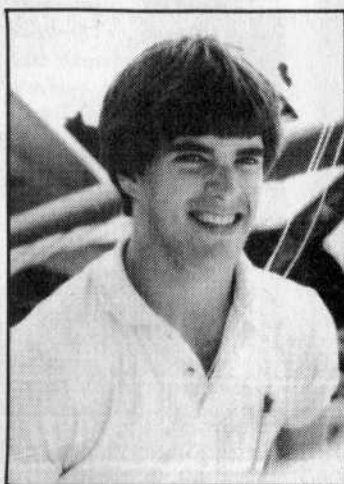
4



NO. 4 RANKED PILOT

NAME: Rob Kells
HOME: Santa Ana, California
AGE: 29
OCCUPATION: President, Wills Wing
YEARS IN HANG GLIDING: 9
GLIDER: Wills Wing HP
ACCOMPLISHMENTS:
1st--1984 Cascade Grand Prix
1st--1981 Wasatch Aerobatic contest
1st--1980 Grouse Mtn meet
2nd--1984 U. S. Nationals
2nd--1982 Telluride Aerobatic championships
2nd--1980 So Cal League meet
3rd--1983 U.S. Nationals
OTHER INTERESTING FACTS:
1985 U. S. World Team member
HOBBIES:
skiing, scuba diving, dirt biking, private pilot, chasing girls

5

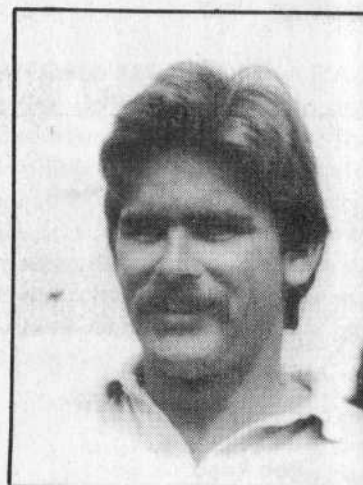


NO. 5 RANKED PILOT

NAME: Chris Bulger
HOME: Mercer Island, Washington
AGE: 20
OCCUPATION: Salesman
YEARS IN HANG GLIDING: 8
GLIDER: Airwave Magic IV
ACCOMPLISHMENTS:
1st--1984 Masters
1st--1984 South African Nationals
1st--1984 Western Himalayan rally

1st--1983 Masters
1st--1983 U. S. Nationals ***
2nd--1984 Fort Funston air races
2nd--1983 Marina steeplechase
OTHER INTERESTING FACTS:
1983, 85 U. S. World Team member

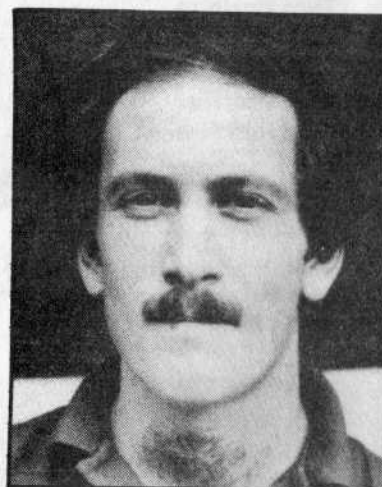
6



NO. 6 RANKED PILOT

NAME: Kevin Kernohan
HOME: San Mateo, California
AGE: 34
OCCUPATION: motion picture industry
YEARS IN HANG GLIDING: 14
GLIDER: Airwave Magic IV
ACCOMPLISHMENTS:
1st--1984 Region 3 meet
2nd--1982 Region 3 meet
3rd--1983 U. S. Nationals
3rd--1983 League meet
OTHER INTERESTING FACTS:
1983, 85 U. S. World Team member

7

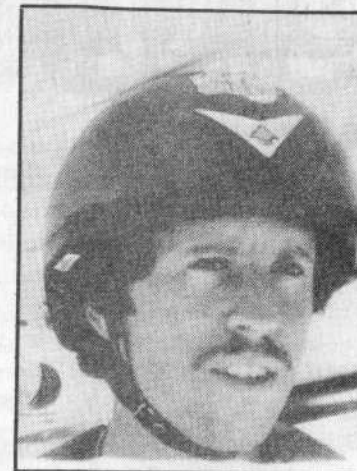


NO. 7 RANKED PILOT

NAME: Steve Pearson
HOME: Santa Ana, California
AGE: 29
OCCUPATION: Designer, Wills Wing
YEARS IN HANG GLIDING: 12
GLIDER: Wills Wing HP
ACCOMPLISHMENTS:
2nd--1983 Region 3 meet
OTHER INTERESTING FACTS:
1985 U. S. World Team member

Designer of 20 production gliders
Over 1,500 hours airtime
Has test flown about 2,000 gliders

8



NO. 8 RANKED PILOT

NAME: Larry Tudor
HOME: Denver, Colorado
AGE: 31
OCCUPATION: Pilot
YEARS IN HANG GLIDING: 11
GLIDER: Ultralite Products Glidezilla
ACCOMPLISHMENTS:
1st--1984 X-C Classic
1st--1981 X-C Open
1st--1981 X-C Classic
1st--1981 Regionals
1st--1978 Regionals
1st--1978 Mount Swansea meet
2nd--1983 Owens X-C Classic
2nd--1982 Owens X-C Classic
3rd--World Aerobatic championships
OTHER INTERESTING FACTS:
1985 U. S. World Team member
Official N.A.A. Distance Record
& unofficial world record flight of
221.5 miles (Owens Valley, California)
HOBBIES:
running, hiking, skiing

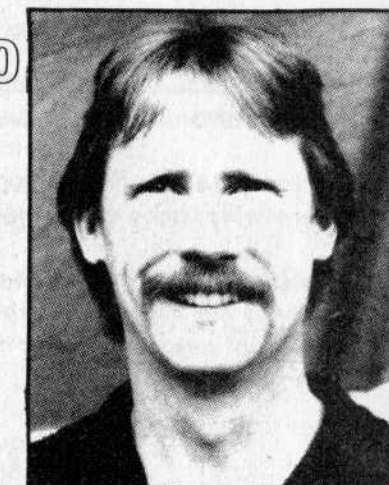
9



NO. 9 RANKED PILOT

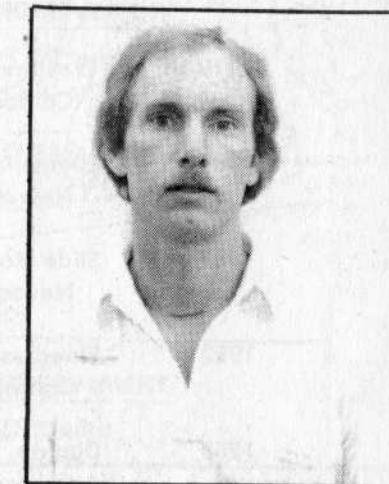
NAME: Mark Bennett
HOME: Escondido, California
ACCOMPLISHMENTS:

10



NO. 10 RANKED PILOT

NAME: Gene Blythe
HOME: San Bernadino, California
ACCOMPLISHMENTS:
4th--1984 Region 3 meet
7th--1982 U. S. Nationals
11th--1984 U. S. Nationals



LOCAL PILOT TO WATCH

NAME: Lee Fisher
HOME: Seattle, Washington
AGE: 34
OCCUPATION: Salesman, heavy equipment
YEAR IN HANG GLIDING: 10
GLIDER: Airwave Magic IV
ACCOMPLISHMENTS:
1st--1984 Chelan Classic
1st--1983 U. S. Nationals (Sporting Class)
1st--1983 Chelan Classic
5th--1984 U. S. Nationals (World Class)
OTHER INTERESTING FACTS:
Ranked No. 19 in the United States (1985)
1983 Rookie of the Year
HOBBIES:
hang gliding, skiing, hunting, fishing, outdoor sports

THE HISTORY

1985 Chelan Nationals

Past Nationals Champions

Year	Location	Class	Individual
1973	Not Available	(none)	Chris Wills
1974	Escape Country, California	Flexwing Rigid Wing	Bob Wills Jack Schroeder
1975	Grandfather Mountain, North Carolina	Overall Open Advanced Standard Standard	Dave Muehl Chris Price Chris Wills Dave Muehl
1976	Dog Mountain, Washington	Standard Open Unlimited	Rob Reed Keith Nichols Ken Koklewski
1977	Heavener, Oklahoma	Standard Flexwing/Open Rigid Wing	Rob Reed Henry Braddock Brad White
1978	Hyner View, Pennsylvania	(none)	Dennis Pagen
1979	Crestline, California	(none)	Eric Raymond
1980	Ellenville, New York	Open	Tom Haddon Rex Miller
1981	Slide Mountain, Nevada	Open	Rich Pfeiffer Fred Hutchinson
1982	Pinecrest, California	Open	Rich Pfeiffer Rich Burton
1983	Dunlap, California	Sporting World	Lee Fisher Chris Bulger
1984	Crestline, California	Sporting World	Terry Wilkins Rich Pfeiffer
1985	Chelan, Washington	Sporting World	??? ???

Note: Names appearing in bold face are the names most commonly associated with the title of National Champion. In later years, the classes have been divided into Sporting and World, with **both** categories receiving the plaudits. Open class, unlimited, and rigid wing categories are all essentially the same, referring to craft with advanced performance, or some modification that may offer them greater performance. These craft, however, are not the kind flown by most amateurs, so they are given lesser attention in the above table, as the Nationals is conceived as an amateur contest.

Thanks to USHGA Director Liz Sharp of Colorado for much of the above information.

THE RECORDS

1985 Chelan Nationals

THESE RECORDS ARE THE Official F.A.I.-Sanctioned World Records. The F.A.I. is the Federation Aeronautic Internationale, which is the worldwide recording organization for aviation achievements in all categories, from military jets to hang gliders and everything in between. The organization is based in France. The requirements are very specific and the F.A.I. demands adequate substantiation before placing their mark of acceptance on any submitted record.

Because the requirements are so stringent, and because the record attempt must be filed in advance, and because certain on-board equipment must be taken along (after being sealed by an observer), many very good achievements are not even submitted to the F.A.I. One such is the world's longest flight (see below).

Still, the rules are available to anyone desiring to set an Official Record Mark, and those who follow the rules of the game deserve recognition not only for their specific flight, but also for playing by those rules. *WHOLE AIR* congratulates the following record holders.

(Thanks to USHGA Director Bob Thompson for this listing.)

OFFICIAL F.A.I. WORLD RECORDS

Flex-wing, Masculine, Single-Place Category:

RECORD	PILOT	ACHIEVEMENT
**Altitude Gain	Ian Kibblewhite	13,694 feet
**Distance in a Straight Line	John Pendry	186.81 miles
**Distance to a Goal	Klaus Kohmstedt	140.50 miles
**Out & Return	Klaus Kohmstedt	107.25 miles

Flex-wing, Feminine, Single-Place Category:

RECORD	PILOT	ACHIEVEMENT
**Altitude Gain	Page Pfeiffer	10,797 feet
**Distance in a Straight Line	Judy Leden	145.35 miles
**Distance to a Goal	No Record Established	
**Out & Return	Lori Judy	77.38 miles

UNOFFICIAL WORLD RECORD

Undisputed, but Non-Sanctioned

Recognized United States National Record: (Officially Sanctioned by N.A.A.)

RECORD	PILOT	ACHIEVEMENT
**Distance in a Straight Line	Larry Tudor	221.5 miles

photo by Sherry Kindel - McMin



THE TECHNOLOGY

1985 Chelan Nationals

By Steve Hollister

GLIDING EQUIPMENT PRESENT AND PAST

NEEDLESS TO SAY, hang gliding equipment has come a long way since the early days. Unfortunately, the general public's awareness of the advances has not kept pace. Today, only the pilot themselves are aware that the mass media's "up-to-date" image of hang gliding is a freeze-frame from a decade ago.

General aviation — or the group of those "smaller" airplanes seating two to six or so persons, flown by "private" pilots — has a similar image problem. The term "Piper Cub," is used in a generic sense to mean any smaller aircraft. In fact, that model of aircraft has not been produced for decades, and is now sought after as a collectors item.

"Why is it that hang gliding's image seems frozen in the past?" you might ask. "Doesn't the news media stay right on top of these kinds of developments?"

The answer is very simple. Sometime during the mid-seventies, hang gliding broke away from ground skimming on small hills (which were usually highly visible to the public, and the sport began to soar right up to the clouds! Frequently this flying was from large mountains in remote areas. Our national organization — the United States Hang Gliding Association, or U.S.H.G.A. — was successfully concentrating on safety improvements at this time. Consequently, news of the sport became remote and the mass media has been forced to rely on dated information for the past ten years.

"So just what has changed?" you now ask.

Good question! The following is a quick comparison of equipment from the early seventies contrasted with gear from the mid-eighties.

THE GLIDER

	Early Rogallo Kite	Modern 1985 Glider
Nose angle:	85 degrees	125 degrees
Sail area:	230 sq. ft.	165 sq. ft.
Weight:	45 lbs.	70 lbs.
Glide slope:	3 forward to 1 down	10 forward to 1 down
Rate of descent:	450 ft. per. min.	190 ft. per. min.
Ribs in sail:	None	21 rigid aluminum ribs
Airworthy?	Questionable	Yes, certified!

Gliders have improved from the mere kites with which many people are familiar... to the drum-tight flying wings that being flown today. As can be seen from this quick comparison, our performance in rate of descent (called "sink rate") and glide angle (called "L/D" — for Lift divided by Drag — or just "glide")

has greatly improved. A new, much smaller (and much heavier) modern glider is getting performance which makes it relatively easy to stay aloft for as long as one wishes, and in weather conditions which are milder and safer.

A very important item to point out is the answer to that one-word question: "Airworthy?" The answer is a loud "Yes!" Modern gliders go through rigorous testing to prove that they are strong and aerodynamically stable. The requirements are very similar to those of aerobatic aircraft, and the gliders are tested up-side-up, up-side-down, and backwards. The glider will return to straight and level flight from virtually any position or any stall — a requirement for stability that demands no pilot actions. Gliders today have located on them somewhere an airworthiness certification placard to answer the question: "Airworthy?"

PILOT SUPPORT; THE HARNESS

Just like the gliders, the harness which supports the pilot in the glider — No, they do not just hang on! — has improved dramatically over the years. In the early days, a plastic swing seat was standard. Yes, the same kind found on a children's backyard swing set! In a stepwise process, from this rudimentary upright seat, the harness changed to a leaning-forward parachute style rig, then to belly down (prone) support.

Today, the most advanced harness is a streamlined enclosure, fully enveloping the pilot and all support straps, leaving nothing to create unnecessary drag. The pilot lies quite comfortably prone with only his head and arms sticking out of such a harness.

The harness also contains an emergency parachute. Despite the proven strength and

stability of modern gliders, it is considered "insurance" to have a back-up system. They have saved a few lives following mid-air collisions or situations when the glider was upset by severely turbulent weather conditions, or by a pilot who improperly executed aerobatic flying maneuvers.

INSTRUMENTATION

Early Days	1985
None	Altimeter
	Compass
	Variometer (ascent/descent meter)
	Air speed indicator
	CB radio
	Timer

Instruments simply make flying more fun. They help the pilot locate and use rising air and they help in avoiding sinking air. They help in maximizing glider performance and in staying in touch with other pilots or a chase crew on cross country flights. In years past, pilots relied on experience and luck. But then, in years past, pilots were not flying hundreds of miles or routinely gaining many thousands of feet of altitude (see "The Records," page 28). The convenience of instruments makes flying easier, and that makes it more fun.

The future of instrumentation for hang gliding is an exciting topic for most pilots. Active talk can be heard of on-board computers to make use of satellite navigation beacons to calculate performance and exact position. One also hears talk of applying instruments to directly visualize rising or sinking air by differences in static charge or density. This fertile territory for the imagination, but then not so long ago we had no instruments at all and the light-weight sensitive instruments we use now were mere ideas.

PILOT KNOWLEDGE

This is the area which has truly blossomed in the past decade. With World Records of well over two hundred miles for distance and twenty thousand feet for altitude, and with glider performance and equipment design steadily improving, anything is possible if you just know how to do it. Pilots have learned very rapidly.

In the early days of the sport — those times that have stuck in the minds of a great portion of the public — hang glider pilots were an immature group in an immature sport. The average pilot age was in the mid-twenties and knowledge of flight was minimal. Today in 1985, the average pilot age is mid-thirties and knowledge of flight is quite sophisticated.

The future of the sport of hang gliding is limited only by the skills of the pilots and by the limitations of the equipment. Both have made remarkable improvements in the past and no reasons exist to think that these improvements will not continue.

Literally speaking, the sky is the limit.

THE SITE

1985 Chelan Nationals

photo by Sherry Kindel - McMin



By George Sturtevant

IMAGINE THE IMPACT!

You are standing at the top of the ramp, ready to launch the sixty-five pounds of hang glider along with yourself by running headlong down the slope and throwing yourself off the end not unlike a ski-jumper.

The difference is that you do not expect to reach the ground anytime soon and you also expect to go a heck of a lot farther than ninety meters. Another difference, the one that

makes Chelan the special site that it is, offers you a view rich in a tapestry of slope, gorge, water, and in the distance, the rim and the patchwork quilt of farmlands — today's first goal, the "Flats."

Some basic map reading explains why this in itself is a challenging goal.

The launch is situated on Chelan Butte at an elevation of 3,890 feet above sea level (ASL or MSL), but the bottom of the gorge is less than 700 feet ASL. The tricky part is that the rim is only 800 feet below the launch, but about seven miles away. No hang glider can perform a glide that flat, so we must get much higher above the

THE DIVERSIONS

1985 Chelan Nationals

MANY FOLKS HAVE NEVER flown in a seaplane. Lake Chelan not only offers this sort of experience, but does so in a region of particular scenic beauty. Any doubts from those who question metal birds which takeoff and land on the water can be quieted by the lengthy training acquired by senior pilot Ernie Gibson, whose 30,000 hours can assure even the most uncertain of potential seaplane sightseers.

Pilots are said to have acquired great experience with the logging of over 1,000 hours of airtime. Definitely this amount of flight experience is considerable and takes great dedication to the art of flying. 30,000 hours, thus, is difficult to even appreciate without thoughtful reflection. Amassing 30,000 hours

requires eight hours of flying per day — a tiring sum, even in an auto where the concentration is much less — for five days per week for 14½ years, assuming every single week of all those years! No time off for bad weather or illness or even vacation. Perhaps those figures give addition credence to Ernie's depth of flight knowledge.

So give a seaplane tour of Lake Chelan a try.

Ernie Gibson of Chelan Airways is well-known in the Chelan area. Literally generations of visitors have come to identify his floatplane on one its daily trips to Stehekin or Domke Lake.

Gibson first learned to fly in 1939 while in college, and subsequently served as a military flight instructor when the World War II conflict began.

His floatplane experience on Lake Chelan started when he was hired by the Wenatchee

Butte's launch point before trying to fly across.

Fortunately, Chelan Butte produces two forms of lift: wind blowing toward the butte is deflected upwards causing the what is called, "ridge lift;" and secondly, sun-warmed air breaks loose from the ground and rises like a hot-air balloon causing what is described as, "thermal lift." The latter is what we seek for good long distance flights (such as in the U. S. Nationals Hang Gliding competition), since it will enable us to reach the 3,000 feet or more above the top of the butte. This height will allow us to attempt to cross the gorge.

Assuming that we catch that thermal lift and get up to six or seven thousand feet (ASL) and make it to the Flats... then the real advantage of Chelan as a hang gliding site manifests itself: lift seems to be everywhere!

Not only that, but very few obstacles present themselves between the rim and a goal of one hundred miles or more which puts you almost to Spokane. And, if worst comes to worst, nothing but wide-open fields stretch out beneath you, either scrub lands or fallow fields. (No hang glider pilot of any real experience wishes to land, the whole objective being to stay up, using Mother Nature's lift. But as a landing always follows every launch — sooner or later — the presence of large landing fields are of great comfort, and in fact, can even allow a pilot to concentrate better on "working the lift" so as to continue with a distance attempt.)

By now, you should have a good idea of why Chelan has attracted hang glider pilots to its launches, and why this year pilots from all around the country have gathered here for the 1985 U. S. National Hang Gliding Championships.

Any questions?

Ask a pilot! They all like to talk about their flying and hang gliding as a sport... almost as much as they like to fly.

THE AEROBATICS

1985 Chelan Nationals

By Aaron Swapston

...aerobic: performance of stunts in an airplane or glider...

WANGS. FLOP OVERS. Pull ups and pushovers. Crankin' whip stall tip dropping tail slide spins.

As with any specialized sport, hang gliding has developed its own individual language. With aerobatics comes additional terminology which not only confuses the average lay person, but sometimes even the hang glider pilots as well. Strange as the terminology can be, no doubt remains that the most visually exciting aspect of hang gliding is "freestyle."

Nearly every sport has its own version of freestyle, and while it is not usually the "cake" of the sport, it very well could be called the "icing." Freestyle allows a pilot to express himself as completely as his skill level and equipment permits. Freestyle is also what reaches out to other people allowing them to share in the thrill of the sport.

Modern hang glider craft are built and tested to rigorous safety standards set and administered by the Hang Glider Manufacturers Association - H.G.M.A. - (Also see "The Technology," page 32). Harnesses are constructed to standards used by the parachuting industry. And to insure against loss or injury from structural failures, pilots wear an emergency parachute, which they can employ to safely lower both the pilot and glider as a single unit. These parachutes are attached to the front of the harness, and are hand deployed.

As for freestyle, modern equipment makes it easy and quite safe to do moderately aerobic maneuvers. Given the present state of the industry and our litigious society, more radical maneuvers are nevertheless possible with the right attitudes, skills, practice, and specially built or modified gliders. In order to do spins, loops, or other more advanced stunts, it is necessary to have a glider whose sail (wing) does not distort (change airfoil shape)

when being flown very fast or with a raised load factor. Consequently the glider is stiffer in handling, thereby reducing the ease of operation. Recreational freestyle is evident at most flying sites, and the more advanced freestyle pilots always seem willing to put on a show.

During the Hang Gliding Nationals being held in Chelan, Washington between July 13th and 21st, an aerobatic display will feature some of the best aerobatic pilots in the world. These highly trained pilots will be putting their

gliders through loops, spins, snap rolls, and more while trailing colored smoke to outline the maneuvers. Demonstrations like these are able to impart some of the excitement and fun that hang gliding has to offer. It is also more easily observed than those tasks in the meet itself, as the cross country flying contest will not be contained in the area right above the town of Chelan.

So, Wednesday the 17th, look up... and enjoy. The world's finest aerobatic hang gliding experts will be performing just for you!



WHAT'S IT SUPPOSED TO LOOK LIKE?

How to Judge Aerobatic Flying

SAFETY/ Safety is a prime consideration in deciding scores for aerobatic competition. In this sport, the pilot who endangers himself also endangers people on the ground, as well as the use of the site, the landing areas, and on. Maneuvers should thus also be judged on the elements of safety.

CONTROL/ A pilot should strive to be in control of his or her glider at all times. A pilot exhibiting a good amount of control authority should naturally score higher than a pilot exhibiting poor control or a loss of control.

FLUIDITY/ Smoothness in execution of maneuvers is important. A pilot who guides the glider smoothly from one maneuver to the next exhibits forethought, rather than a

disorganized assemblage of unconnected maneuvers.

DIVERSITY/ Almost any pilot can perform reversing wingovers, or a Figure 8. It is how this type of maneuver is combined with others such as dives, turns, pull-outs, spirals, and porpoises that makes for an eye-pleasing display. Keep track of variety.

JUDGEMENT/ This may be the most important word in the sport of hang gliding. A pilot who shows good judgement will take all aspects into consideration and not over-extend himself or herself past their experience limits and those of their equipment.

AESTHETICS/ How pleasing was the routine? Was it a scary, uncertain demonstration or a picturesque aerial ballet?

DIFFICULTY/ How difficult is the maneuver? Does the pilot exhibit skills beyond average in

executing difficult or unusual maneuvers?

LANDINGS/ Does the pilot show good landing skills and a proper technique for flaring to touchdown? Since a target landing score is involved, credit must also be given for skillful landing demonstration. Though hitting the target is the goal, a hard landing on that spot cannot carry the same value as a gentle stop on the spot

AWARDING POINTS/ Points will be given in a manner similar to other freestyle events, on a 1-10 basis (where 10 is best). The maximum score for a flight would be 10 points per judge, with the spot landing score adding an extra or bonus score.

JUDGES/ Judges are chosen for their ability to be fair, and to be able to clearly recognize the skills necessary for execution of a good aerobatic routine.

Mark Kenworthy

Mark, as the Meet Organizer, is the ramrod of the planning committee. It has been his enthusiasm and determination that really got things rolling in the first place. Mark has been involved in hang gliding for quite some time, having taken lessons back in Indiana while he was in college. However, he became active only 3 1/2 years ago here in the Northwest and has since risen rapidly to become a competitive pilot and leader in the hang gliding community. His mundane job is "software engineer," but when reviewing samples of his work, it appears that he has been using a computer and a weather satellite to map the area around Chelan. When not flying, Mark can be found skiing or tearing up the roads with his dirt bike. Mark will be flying a Magic IV in the Chelan Nationals.

Jon & Jean Dawkins

What a team! Jon has been flying for years and years, but became interested in competition after placing high enough in last year's regionals to earn a slot in the '84 Nationals at Crestline. Jean has been driving and chasing for Jon, and encouraging everyone else ever since they got together. Jon works for REI and Jean - known for her outstanding cooking - is an instructor of high cuisine. Jon's glider is an Attack Duck and he will be flying in the Nationals while Jean will be timing.

Lee Fisher

Lee has competed in the past two Nationals, winning the Sporting Class in his first year. Although Lee claims to work as a sales and service representative for a crane manufacturer, he seems to have an awful lot of free time to sharpen up his skills. Of the local pilots, Lee is the one to beat. If you have not read his article on flying Chelan in the May '85 *Whole Air*, you are not yet totally prepared.

THE CREW

The organizational end of the 1985 U.S. Nationals... meet them / photo by Rande Laskewitz



Jean & Jon Dawkins; Dan Uchytel; George & CJ Sturtevant; Mark Kenworthy

Lee will be flying his Magic IV this year - the same one in which he set the 111 mile Chelan record at the 1985 Regionals.

Dan Uchytel

Danny, like Lee and Mark, is a transplanted Midwesterner who began flying in the days when people were constructing their gliders from whatever material was available with plans based on a picture in a magazine. He has many stories to tell about his experiences, not least of which was his recent parachute deployment at Chelan (the Butte is not always friendly). Danny can be counted on for good advice and many of the newer pilots are in debt to him. He will be flying his Pro-Air Dawn in the Nationals.

Buck McMinn

Talk about transplants! Buck and Sherry, daughter Angie, and their hang gliding son, Justin, moved to Chelan only last year. Buck promptly set up his hang glider shop right on

the road up the Butte and started giving lessons in the Chelan area. Buck has been the committee's leg-man in Chelan contacting the mayor, Chamber of Commerce, and everyone else who had to be reached. As a Pro-Air dealer, he will be flying a Dawn in the meet if he is not too busy in his shop.

C.J. and George Sturtevant

C.J. and George are one of the few husband/wife flying teams in the Northwest. Their hang gliding career began three years ago when they decided to take a class as a one-time adventure in order to generate some slides for their sixth and seventh grade classes (both are teachers). Obviously, hang gliding became more than a single trial for them since they report that there is no longer time for their other activities of scuba diving, mountain climbing, and challenge square dancing. Both fly UP Comets. Besides being in on the planning, C.J. will serve as a launch timer and George as the Meet Safety Director, scorekeeper, and launch timer.

photo by John Stevens



ENDING THE SEASON is a colorful event to which visitors are encouraged to bring their cameras (at least those who still want more after snapping shots of the equally colorful hang gliders which will fly in the U. S. Nationals in mid-July 1985).

The annual Lake Chelan Sailing Regatta is scheduled for September 27-29, 1985. The event is sponsored by the Lake Chelan Sailing Regatta Committee, and usually marks the end of the full summer season for residents and visitors alike. The event receives its sanction from the Pacific International Yachting Association.

More than two hundred sailing craft from all over the northwest U. S. and from Canada will help make the event the largest and final race of the season for sailors.

Those wishing to take photos, or just spectate, can gain "front row" seats by using the Lakeshore or Lakeside parks. These

vantage points will allow viewing of the races as the craft round the perimeter at the lake's southeast end. A day on the beach of the parks should be most relaxing.

The craft are divided into classes for fairer competition. Included in this event are the Laser-single handed, Hobie Cats-double-multihull, San Juan 21-cruisers, and both mono- and multi-hull open classes.

More than the races themselves, other related activities take place around Regatta Headquarters at Campbells Lodge over the late September weekend. Some of these alternative activities include free sailing movies on Friday and Saturday evenings, and a sailor's social hour by the pool (kid's barbeque on the beach) occurring Saturday evening.

To assure that everyone who wishes has an accurate grip on the event, live helicopter-borne radio coverage will be provided. The race is completely video taped to allow participants to review their performance, and a computer is utilized for very fast scoring. A trophy presentation follows the event.

THE 1985 Chelan Nationals DIVERSIONS

NOT MANY WATERWAYS in the United States can match the wealth of scenery provided by Lake Chelan. The lake which is never more than one mile in width reaches at its northern end into the rugged and entrancing Cascade Mountain regions. At the south end the lake supplies moisture to the north central Washington area's prosperous apple country, which itself contributes to the locale's scenic beauty.

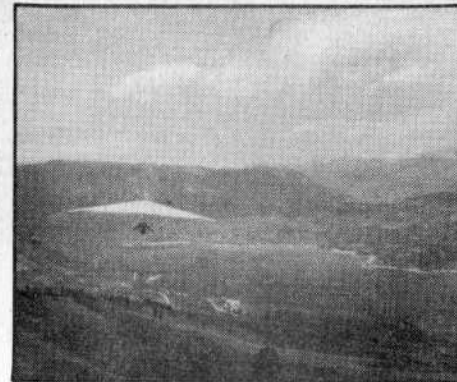
The lake sits in a very deep valley carved ages ago by powerful cascades of water melting off glaciers, which was then dammed by a glacier moraine, or a kind of natural dam of earth and stones left by a glacier's movement. The overflow of this glacier dam exits from the southern end of the lake through a gorge that drops 408 feet in a mere half mile.

Lake Chelan is the seventh (7th) deepest lake in the entire world. Its surface sits at 1,079 feet above sea level, and with its recorded depth hitting 1,479 feet, the base of the lake is some 400 feet below sea level. However, according to some sources, the bottom of the lake has never been located.

The lake's temperature varies from a 33 degree low in February (just above the freezing point) to a high of about 75 degrees in July and August, in the more shallow areas of course.

As with large bodies of water in other

areas - nearby Seattle for example - the approximately fifty square miles of Lake Chelan acts as a moderating influence on the immediate area's climate. Summertime temperatures average some fifteen degrees lower than those of adjacent valleys. Yet the water provides clouds in the winter as the water



cools, which provides for somewhat warmer temperatures in those winter months. These effects bring in Washington residents who need to escape the summer heat in the regions east of the Cascade mountains. Conversely, those arriving from the Seattle area appreciate the warmth given by the more desert-like atmosphere, yet are not cooked in the heat which normally is associated with such climates.

The lake is bordered on the west by the Chelan Mountains, which reach elevations of

8,600 feet, and on the eastern side by the Goat Mountains and the Sawtooth Ridge which themselves rise to about 7,100 feet. In this area, sheer cliffs rise from the water's edge, just as they were carved thousands of years ago by glacier movements. The water can become quite rugged when a north wind comes whistling down its length.

But this very ruggedness offers some of the Washington state's most beautiful scenery, creating the impression of an appearance not unlike that of Switzerland, where sharp mountains rise steeply thousands of feet from the water's edge. In the springtime, many of the area's peaks are covered with snow, and as melting begins, many streams create waterfalls that tumble and cascade down to the lake. Every glance can transform to a view of rugged grandeur that rivals scenery anywhere in the world.

In addition to the effort of some to liken the area to Switzerland, others have ascribed the scene to that of Alaska's eastern passage between Ketchikan and St. Petersburg. It is the apparent narrow look of the lake, which though a mile wide in places, seems thin in comparison to its considerable length.

Visitors who have come to appreciate this beauty enjoy repeating the experience year after year, and thereby make an unspoken gesture of satisfaction which underscores the Indian tribe's naming of the lake, "Chelan... or 'Beautiful Deep Water.'"

over six hundred full-time and part-time employees who net some four millions in payroll earnings.

The export (to other states as well as internationally) brings in significant dollar volumes that provide the primary economic influence in the region.

Times have changed since the fruit industry in Chelan first began to market more widely. The growers used to be forced to deal



with a condition that was named, "mid-season market blues." Too-large inventories used to be complicated further by conditions problems such as decay, breakdown, scald, or over-maturity. With the help of warehouses and trained field men, growers have solved most of these difficulties by bulk bin harvesting, much

improvement in cold storage procedures and techniques, and an increase in controlled atmosphere storage. Further applications of scald and decay preventing fungicides prior to fruit storage, and a better job of preventing watercore problems, combined with the effort to more quickly move fruit to the market has also aided in the business growth and profitability.

Appearance of any product is vital in today's highly competitive marketplace, and fruit must also address this need. Warehousemen have greatly improved the apple's appearance by two kinds of wax. One is a shellac-based wax which yields the highest luster; the other is a vegetable-based wax which is used on fruit to be shipped to areas high in humidity. The overall effect is dramatic on the eventual consumers, who buy Washington state and Chelan apples in large quantities.

Says the Chelan Valley Mirror, "The warehouses look at each new record crop as a statistical challenge, to their pride and satisfaction, however, they find that the industry's marketing has grown proportionately with the crop size."

Profits continue to build for area growers, and as one might expect considering the importance of the fruit industry locally, so goes the prosperity of the Chelan/Manson communities.

VISITING CHELAN WITHOUT a trip up the 55 miles of Swiss-like scenery on the lake is an incomplete visit. Like the man who climbed the mountain "just to see the other side," travelers coming to Chelan for whatever reason really should see what is at the other end of the lake.

The region is locked in isolation, inaccessible by auto or truck, and is hemmed in on all sides by the North Cascades National Park and adjacent wilderness areas, whose tall, rough mountainscapes surround the vicinity.

Those to whom this type of rare scenery is appealing will likely purchase passage on the Lady of the Lake II, or on the floatplanes all operated by Lake Chelan Recreation. This firm also owns Stehekin's North Cascades Lodge. For those not desiring such a long voyage (about 3 hours), dinner cruises and charters are available staying closer to the city of Chelan.

The company operates from May 15 to October 15 on a daily basis. Its primary craft, the Lady II, is a steel-hulled vessel that is one hundred feet long, 24 feet in width and can hold 350 passengers. Boarding at Chelan dock at 8:30 AM or at Field's Point at 9:45 AM, the Lady II arrives in Stehekin about noon.

Though some may wait to have lunch in the North Cascades National Park restaurant, hot sandwiches and a variety of beverages and snacks can be purchased on the boat while enroute.

Overnight, weekly, or monthly accommodations are available in the lodge, and a variety of camping opportunities exist in the Stehekin Valley.

In addition to the restaurant mentioned above, seating nearly 50 diners, visitors will also find a small grocery, a cocktail lounge, an outdoor tavern, and sandwiches or ice cream served at a lunch counter.

Rafting trips and other tours are available, plus for the do-it-myselfers can rent cars, mopeds, bicycles, canoes, fishing boats, sailboats, or horses. Lodge guests may use the hot tub, volleyball/badminton courts, or pitch horseshoes.

Flights up and down the lake for visitors or those who need transportation are available from either Lake Chelan Recreation or Stehekin



photo by John Stevens

Air Service. One can travel this scenic and rapid way almost any time from mid-April till mid-October. Another set of rates accommodates those who wish to boat uplake and fly downlake.

Chelan Airways offers two seaplanes - a seven-passenger Beaver, or a four-person Cessna 185. These craft are used for the Stehekin run or for sight-seeing excursions into the smaller mountain lakes than abound nearby.

The Lady II has an older sister, the Lady of the Lake I. This craft has gone through a complete remodeling to add a proper kitchen and tables, and is now used for dinner cruises departing at 7:30 PM for two hours. These enjoyable diversions on beautiful Lake Chelan are available Friday and Saturday evenings from June till the first week in September.

They also offer a unique-sounding pre-cruise function called, "The Party before the Party," or "The perfect way to begin an evening on the town. Interested persons may inquire with Lake Chelan Recreation for details on the

Wednesday and Thursday parties.

Charters to any place on the lake can be arranged at other times. The Lady I, used for such charters, holds 70 persons on cruises, and can seat 50 for dinners.

During the slower winter months (mid-October thru mid-May), the Lady I does winter transportation duty between the city of Chelan and Stehekin at Lake Chelan's opposite end. Visitors who plan trips throughout these months will find it the perfect time to escape the crowds of the big city life.

Refreshments like sandwiches are also available on these Monday, Wednesday, Friday, and Sunday runs; plus the Stehekin lunch counter will also be serving.

For those wishing to stay over during the winter months for skiing some of the well-groomed wilderness cross-country trails, the lodge at Stehekin keeps a housekeeping unit available.

More information can be gotten by stopping by the dock of Lake Chelan Recreation on Highway 97 in southern Chelan.

are located on Lake Chelan itself are unique as they are accessible solely by private boat or commercial ferry, or by seaplane. Some may also be reached by trails. On both sides of the lake are located several small campgrounds, which provide small docks, tables, firepits, and some have shelters and outhouse facilities. Fires are restricted to fireplaces only during the summer when the fire danger increases due to the dryness, and of course, campers are urged to remove all their litter as no garbage containers or pickup are offered.

Trailheads located at Prince Creek and Moore Point give trail access to the Lake Chelan/Sawtooth Wilderness area on the north side of Lake Chelan. In excess of two hundred miles of trails provide hikers and horsemen alike with sights of rugged mountains, small lakes and meadows that are spectacular indeed.

THE WENATCHEE NATIONAL FOREST, which keeps an office in Chelan for the Chelan Ranger District welcomes everyone to visit and enjoy its attractions, of which it is justifiably proud.

Included in the many recreational activities are small campgrounds accessible by road at Antilon Lake and South Navarre on the north side of Lake Chelan, and at Grouse Mountain and Junior Point camps in the Twenty-Five Mile Creek vicinity. Literally miles of primitive gravel or dirt roads are open to allow such activities as sight-seeing, berry picking, bird watching, and mushroom hunting. However, for ease and safety, visitors are requested to stop in at the Chelan Ranger's station for up-to-date road conditions.

The National Forest campgrounds which

A trailhead starting at Lucerne gives access to the high country which surrounds it, and to Domke Lake, where a small resort has boats and cabins for rent. A taxi-bus service is also available at Lucerne for transportation to Holden Village and the Railroad Creek trail into the Glacier Peak Wilderness.

A number of trails are open to travel by motor trailbikes in the Twenty-Five Mile Creek and South Navarre areas.

More detailed information can be obtained by a visit to the Chelan Ranger District Office, which can be found at 428 W. Woodin Av., (see maps, pages 22 & 23) between the hours of 7:45 AM and 4:30 PM Monday through Friday. During the summer season (Memorial Day through Labor Day), the office is open daily. Or visitors may call 682-2576; (the emergency number of 911 may be used for Ranger contact as well when outside of office hours).

photo by Sherry Kindel - McMinn

photo by John Stevens

The NIMBUS

18:1 from Europe/

SAILPLANE,

By Chuck Rhodes

IF THE WORD "NIMBUS" conjures up memories of an early 1975 Larry Newman/Electra Flyer hang glider, or a super high performance glass sailplane, your memory is only partially correct.

Today, yet a third motorless flying machine with the name Nimbus is being flown in Switzerland. The 12.5 meter (41.6 foot) span, foot-launched, composite glider is the creation of Dominique Loup of Geneva, Switzerland.

The Nimbus is a high performance rigid wing, cantilevered hang glider with a constant chord and a unique dihedral that is gently elliptical (curved upward smoothly over its span, sometimes referred to as polyhedral). Utilizing weight shift and drag rudders, the Nimbus is flown just like a Fledge or Voyager, but without the additional drag penalty of external rigging cables.

Boasting a claimed glide angle of 18:1 at 48 km/hr (28 MPH) and a 0.75 m/sec (approximately 150 FPM) sink rate at 42 km/hr (25 MPH), based on performance data obtained at standard conditions at sea level... the Nimbus could offer outstanding cross country potential. Additionally, its 120 km/hr (72 MPH) reported top speed and 28 km/hr (16.8 MPH) stall speed offers the Nimbus pilot an excellent speed range with which to work.

Although the Nimbus looks revolutionary, it is based on several well-proven and famous rigid wing hang gliders of the past, the Icarus V and the Catto 15.

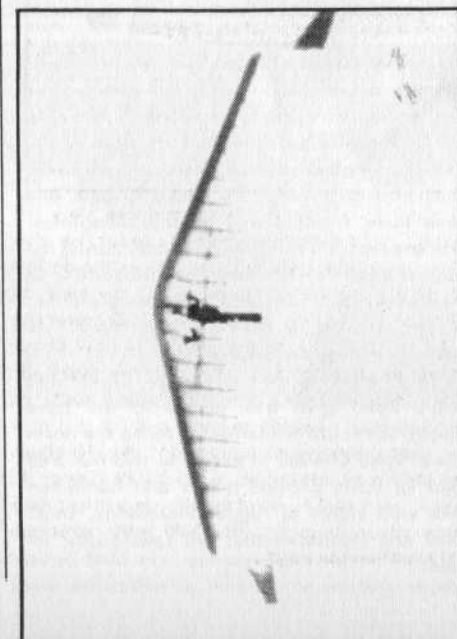
The Icarus V, designed and built by Taras Kiceniuk of California in 1974, was an externally cable braced, mono-wing hang glider built of an aluminum tubing airframe, covered with heat shrunk and doped fabric. It utilized a TK 7315 high lift/low speed airfoil developed by Professors Liebeck and Lissaman, and was the first hang glider ever to consistently demonstrate thermalling capability.

WHOLE AIR • Page 38

In 1975, Craig Catto built a cantilevered glider based on the Icarus V called the Catto 15. This became the stimulus Dominique needed to design and build the Nimbus.

Desiring to build a high performance glider with quality construction and capable of easy reproduction, female molds were constructed for the Nimbus leading edge D-tubes. Costing 20,000 Swiss francs (about \$7,500), the molds were expensive creations due to the elliptical dihedral and no right angles characteristics of the Nimbus design.

"It was a nightmare for a mold maker to build," reports Loup. The D-tubes are constructed of composite Kevlar, making them extremely strong and resilient to impact damage. Wing ribs are hot wire cut, epoxy-bound to the D-tubes and then covered with Ceconite (a brand of heat shrunk and doped dacron). The nose angle of the Nimbus was



altered from the original Icarus and Catto 15 angles to match the coefficient of lift and location of center of gravity of the empty wing so as to facilitate launching. Anyone who has ever launched a Fledge (or other swept flying wing) knows how tail heavy they can be during ground handling, at least until the pilot becomes accustomed to the particular craft. This tendency is dramatically reduced in the Nimbus due to the new nose angle design.

The Nimbus comes apart at the root chord, similar to the Icarus V, to make transportation and storage easier. Although it may be carried on a small compact car, it still has the disadvantages common to many rigid wings, one of which is that only a single craft may be transported at once. The prospective Nimbus pilot must weigh this disadvantage against the many advantages of the design. Some of these merits include: quick assembly time, no external cables to attach, and long lasting Swiss quality construction that will retain its shape and performance over the years as is typical of composite-built aircraft. If the wing covering gets old, stretched, or otherwise damaged or worn, you simply replace it. Obviously the most important advantage, however, is its high glide performance, excellent sink rate, and wide speed range.

FLYING THE NIMBUS

The reader must be asking by now, "Okay, I have heard the claims of high performance, and am somewhat familiar with its construction techniques, but how does it really fly?"

Fortunately, a first hand flight report was recently published in *Vol Libre* (see the June '85 *Whole Air* for a report on this leading French magazine). The report, which appeared in the January '85 issue of *Vol Libre*, was entitled, "Nimbus: The Missing Link?" and it was written by Phillippe Tisserant, an editor of that

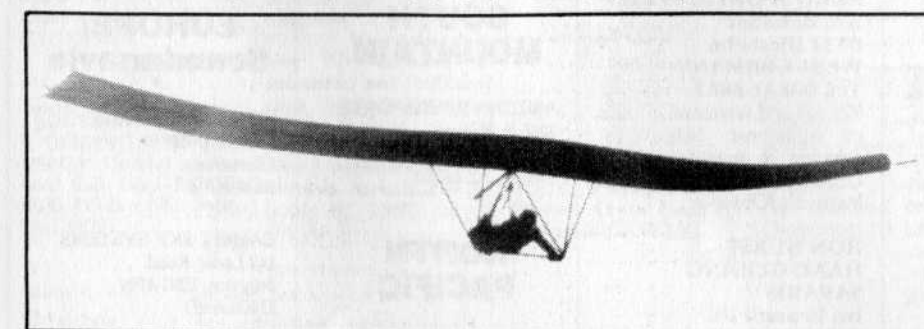
publication. The article was translated from the original French language by Roberto Arato, a designer and builder from Germany, who is now himself working on a foot-launched sailplane project in Southern California.

The story began on October 14th, 1984 in the Swiss Alps.

"When Denis Mothet calls out, 'All right, zero wind!' I leave my philosophical considerations behind and lift the 40 kg (88 LB) Nimbus prototype, immediately noticing how nicely it is balanced. Leveling out the wings and holding the nose at the proper angle of attack, I sense it wanting to fly. Yet subconsciously I know how badly off I am going to be if it does not. Concentrating intensely, making a quick final check of the angle of attack, I take two steps forward. The Nimbus feels lighter immediately, and as I continue to accelerate my take off run, my confidence builds. Now speeding down the take off ramp, I rotate the nose up and easily lift off.

"Pulling in gently, my airspeed climbs to 40 km/hr. Perfect! The Nimbus feels like it is on rails. Trying a left turn, I notice that it is tough to bank. Trying the same thing to the right gives similar results. I remembered then that Dominique warned me that the rudders could be too small, and not well (enough) compensated. Slowing the Nimbus down, I decided to check the stall characteristics. Forty kilometers per hour, nothing; 30 km/hr, nothing; 28, 25, and then a gentle mush. The wing immediately noses through and accelerates to 30 km/hr. Rarely have I ever experienced such a gentle and friendly stall. Further turning tests indicated a neutral stability up to thirty degrees of bank. Beyond that it is positively stable, tending to return to level flight after release of the controls.

"Pitch stability was tested by speeding up to 80 km/hr. Letting go of the control bar, one feels no tendency to increase speed or dive and the wing rapidly decelerates and climbs into a gentle stall, recovering with the nose dropping



gently.

"At 800 meters AGL, no problems or troubles present themselves. Now to land! Dominique reminded me that landing was no problem at all if I keep the glide angle in mind. I do not want to push out too soon! Deciding to go for a sailplane-type approach, I begin losing altitude and turn onto final approach with 400 meters to spare. At that point I attempt to use the rudders as dive brakes, but they are even less effective than they were for roll. Having entered onto final at 8-10 meters above the ground, I am really surprised to find myself still 3-4 AGL nearing the landing zone.

Do not try to push out now, I tell myself thinking the more I fall, the more it is going to hurt. Worrying about that, I end up pushing out too late. I am barely 10 cm above the ground now and the control bar hits. *Instant panic!* Did I break something? Luckily, I just scraped the belly of my harness.

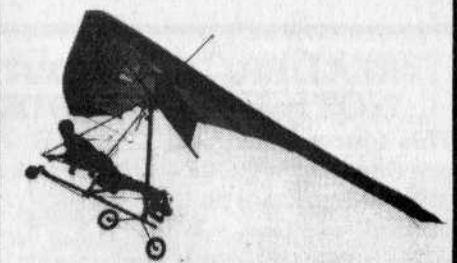
"So that was it. After five years I have flown another rigid wing. The Nimbus was as simple to launch as a Rogallo. The only problem for me was landing, due to unfamiliarity with its high L/D. The wing's low stall speed allows flight in the same envelope as flex wings. Certainly, too much enthusiasm at the moment is premature, but the performance is unquestionably present: less than 1 m/sec (180 FPM) sink rate, and at 2 m/sec, the glide angle is still around 10:1 at 70 km/hr (42 MPH) where flex wings typically have much lower L/D's at that speed. This opens up many new horizons, does it not?"

THE FUTURE

Loup is pleased with the performance of the Nimbus so far, but knows that it is still too heavy and the rudders are too small. The static load testing has not been completed yet, nevertheless, the hang gliding club at Lausaiune, Switzerland has ordered three besides seven other orders the company is holding. Loup is trying to keep the price of the kit below 4,500 francs (about \$1,750) with a 50-hour construction estimate. (Dominique's original letter also states a ready-to-fly version can be purchased for 6,750 francs (about \$2,600), though further advice should be obtained from Loup as these figures may well have changed. But at 4,500 francs and fifty hours, it is no more expensive than a good double surface flex wing, and fifty hours building time is very minimal, as most rigid wing projects go.

Dominique Loup is also experimenting with new rudders more appropriately called "rudderons." They move up and down about

Nomads are looking for homes



We are looking for distributors in the U.S. and other countries.

If you are interested in the best discount terms around and want to take advantage of the weak British pound as well as flying the most beautifully built soaring device ever invented, write today to:

Dept. W.A.

FLIGHT RESEARCH
Rochester House • Ashfield Crescent
Ross-on-Wye • Herefordshire HR9 5PH

We Build Our Harnesses & Parachutes to the toughest standards we can find...our own!



OPTIONS: ★ 1/4", 1/2", or 1" Foam ★ Racing Boot No Foam ★ Steel Carabiner ★ THERMA/R™ Insulation Radio Holder ★ Ballast ★ Boot Stash Pouch ★ Extra Pockets ★ Higgins Hinge Fly Flap ★ Chevron Stripes You Name It! ★ Two Week Delivery

FLY WITH THE BEST SYSTEM AVAILABLE...FLY WITH High Energy Sports

2236 W. 2nd Street • Santa Ana, CA 92703
(714) 972-8186

WHOLE AIR • Page 39

PRODUCT LINES

TACOMA, WASH. — Ah, an exciting issue, this one... what with all the planning and anticipation as the 1985 Nationals approached, and it NOT being in Southern California. Not that SoCal is any kind of bad place for the Nationals, mind you. Matter of fact, according to many who've flown the SoCal Nat's of late, it's probably one of the best places in the world to expect to be able to consistently hold a contest. If, of course, you don't mind competing in the "back yard" of many of the country's already-best pilots. And if you can breathe the air of Crestline's murkiness. And if you can't mind driving forever to get there, assuming you're from "back east" or some other place not in the world according to SoCal. Hey, what're we saying. You can't get much further from, say, the Miami pilot group, what with having to truck all the way to Chelan, Washington state. True, true, true, but for once it's close for us Whole Air staffers. So we've been havin' a ball gettin' ready. Oh, the joy! As we sit here punchin' keys on the ole DTI (computer composition system), we are loggin' our seventeenth day in a row working. Yes, the Nat's is a heap a' fun. We're bettin' that many of the other folks involved in planning this shindig are equally drained. All except **Mark Kenworthy**, mastermind of the Chelan Nat's. That boy seems nearly indefatigable, or a least makes it look that a' way. Well, he took a bow in the pages of this here Program (page 35). So, when you see him, or any of the other folks featured on that page — or for that matter, when you see any of the Cloudbase Country Club'ers working the Nat's for ya — please be respectful enough of the work at Chelan to give 'em a big **THANKS!** for their efforts. A much-sought-after sponsor never forth-came. Too bad, as Kenworthy had a slick downtown-type publicity agency working hard on it. And fer a awhile, it looked very promising. The glitch? Very simple. Just not enough time between approval of the site (by USHGA decision-makers) and the event itself. How to remedy this situation? Also very simple. Make the decision earlier. Now, we're not faultin' those decision makers. They have constraints, too. But, it would seem easy enough to push up the dates involved, so that a prospective Nationals-holder could be approved, and still have adequate time to talk with the big buck companies that go for these kinds of things. Y'see, it hinges mightily on one thing... **TV coverage.** Such coverage can — and has in the past (Slide Mtn Nat's for one) — been obtained. The Nat's are no small thing, sportwise. What with all the cable TV networks scramblin' to make a buck, we certainly can get TV coverage. And from that can definitely follow a sponsor, it seems. 'Cause, look at it this a' way... if a sponsor gets, say, one minute — a mere 60 seconds — of nation-wide coverage on TV, resulting from their sponsorship of an event like our Nat's, this can be added up to a value of \$50,000 or **MUCH more.** Accountants and company presidents can think and evaluate in terms like that. "Sure guys, we'll give ya \$25,000 for yer little contest, if you'll guarantee us X minutes of TV time." So, again, why didn't Kenworthy's professional agency secure the bucks (which would've significantly **dropped the entry fees,** and raised official's pay rates, and more)? Time. That's it. Just not enough lead time between approval and contact with sponsors. Well, if you see the logic in all this soapboxing we've done here, get in touch with yer Yoo-shga Director, and let him/her know how you feel. Maybe a future Nationals holder will thank you. Matter of fact, maybe somebody other than Southern Californians will host the Nat's if a sponsor helps with the bucks. Then, it could be where ever, and not repeat at the same location so often. Eh? Well, lessee what news is rumblin' around our "Product Lines" file. **Fly-West Ltd,** a Canadian outfit running a school/dealership in Calgary, has acquired a dealership from the **Polaris** guys in Italy. They claim to be the first to import Italian gliders to North America. They also hope maybe they can break into the USA with the **Polaris** line, which includes a **LaMouette Atlas** copy — a state-of-the-art intermediate, — an **Airwave Magic** copy, and now (see recent **Whole Air** news items for reference) an **UP Glidezilla** look-a-like. The attraction is

not so much that they choose hot gliders to copy (they'd probably say "refine"), but that considering the dollar/lire exchange rate, these gliders can carry almost unrealistically low prices. We don't know what **Fly-West** is sellin' 'em for, but you can ask. See their ad in our Directory (pg. 40). You may've read it elsewhere by now, but it's worth repeating briefly. The **1985 Fort Funston Air Races** were won by Airwave U.S.'s **Kenny Brown**, followed by Airwave Team members **Dan Racanelli**, and **Chris Bulger**. These guys have about "owned" this race and the **Marina Steeplechase** in recent years. Congrat's **Kenny**. But all is not happy for **Brown 'n Bulger**. They're fighting some hot competition from **Uncle Bill's** offering of the **Mystic**. They wished us to re-state our last "Product Lines" comment about "...**Bennett's** new **Mystic/magic.**" The point is to say that they feel the highly refined **Magic IV** is no easy copy, and that the **Mystic** may be a similar design, but should not be characterized as a **Magic**, which it ain't (even **Bill** would agree, of course). But **Bill** is not apt to mind those thoughts too much. His model has got some steam, and even moreso after **Windsports Int'l's Joe Greblo** won the usually hot **Region 3 Qualifier** while flying a **166 Mystic**. Congratulations to **Joe**, a friend who has not been seen so much in competitive circles after much attention (and success) only a few years ago. We hope he'll be headin' up here to the Nat's after that victory. But, boy oh boy, speakin' of some hot old flying... You probably read the accounts in our News section (X-C News, pg. 12) of **outstanding long distance flights** by **Kevin Bye, Bob Thompson, Dana Roosevelt, and Hans Heydrich.** These reports, combined with **Gary Engelhardt's** and **Mark Dunn's** century-mark-plus flights back in **Chatanooga** earlier, are making 1985 look like a pretty smokin' year for long distances. Now, add in the **World Meet** mileage (or kilometerage, for you metricized folks). But then... yep, you got it, that's **STILL** not all. We got a call from **Kevin Christopherson** in Idaho. Seems he and some flying buddies logged 3 100 milers from the **Muddy Gap** site, as they practiced routes to be used in their regional qualifier. **Kevin, Chuck Bright, and Steve Williams** were the pilots involved, and some interesting facts accompanied the report. They were hittin' about 18,000 feet. **Bright's** flight of roughly 134 miles was accomplished in a scant 3½ hours (that's a blazing 38¼ MPH! average). And **Williams' flight** was done on his new **Mystic**, which he'd had only two weeks, this being only his 2nd X-C on it. Add to that, **Steve's** 120 mile flight (approximate) comes as he completes his **first year of flyin' hang gliders!** We're impressed. After our first year of flying, we were happy to be loggin' nearly thirty seconds of continuous, uninterrupted flight. Our first three-sixty was months away yet. ('Course that was in the dark ages of hang gliding, when no one was doin' much more. Times have a'changed, eh?) As we get ready to close out this column for another issue, we picked up a few tidbits from **Skydiving**, a publication catering to parachutists. Their issue 58 had a little section called, "**About Aviation in General,**" which we'll quote. "The president of **Beech Aircraft** one of general aviation's **Big Three** recently told Congress that while the general aviation industry 'once provided jobs for nearly 60,000 Americans, we now employ only about 28,000.'" And, "The **Massachusetts Institute of Technology** says the chances of being killed on any given airline flight is one in 26 million, 'the equivalent of taking two flights a day for 3,065 years.'" Also, "The **Federal Aviation Administration** is predicting general aviation will grow at an average annual rate of 2 percent through 1996, while the airlines will grow at 4.5 percent and commuters at 7 percent annually during the same period.'" What about hang gliding, we wonder? Hey, y'know if we worked at it, we're bettin' that we could beat those growth rates, since we're already small, and could have a greater growth percentage. See the value to tryin'? We hope so! Well, we're outta here for another month. See ya in August (later in that month, so we can report the Nat's results in their entirety.) Got news or opinions? Send 'em to "Product Lines," P. O. Box 98786, Tacoma, WA 98498-0786.

DAWN

A Picture of Things to Come



Glider: Dawn Comp. Photo by R. Grigsby

THE DAWN represents an important new innovation in hang gliding technology. **STRUTS.** The most exciting of the Dawn's new features is lower side struts. This eliminates the need for top rigging and bridle lines. **RIGID WING.** The Dawn can best be described in terms of a rigid wing. Like a rigid wing, flight loads are located around a central structural spar — in the Dawn's case the "cross-spar" (located farther aft than a conventional cross bar). With fixed battens supporting both the upper and lower surfaces, the trailing edge becomes fixed, eliminating mid-span twist and providing center section stability.

HANDLING. Since high trailing edge tension is no longer necessary to prevent mid-span twist, the Dawn retains excellent handling and landing characteristics. (See Dec-Jan '85 issue of **Whole Air** magazine for pilot evaluation of the Dawn.)

All inquiries, contact:
DELTA WING GLIDERS • BOX 483 •
VAN NUYS, CA 91408 •
818/787-6600 • Telex 65-1425

HGMA CERTIFIED. The Dawn 155 and 175 are certified to 1984 specifications. **COMPETITION.** Soon to be released, the Dawn Comp will be 85's hot new glider for the serious competition pilot. Details and specs coming soon.

DAWN SPECIFICATIONS

Size	135	155	175
Area (ft. ²)	128	148	168
Span (ft.)	31.3	33.3	35.3
Root (ft.)	6.5	7.0	7.5
Tip (ft.)	2.5	2.5	2.5
A/R	7.65	7.49	7.42
Weight (lbs.)	55	62	73
Pilot (lbs.)	110-170	150-220	170-250
Rating	Hang 3-5	Hang 3-5	Hang 3-5

