

# WELCOME

Welcome to **WAC #1** for May and June. You will be receiving **WAC** every other month, **FREE**, just like you got this one. We hope you will enjoy using it **FREE** too, as you send in our **Reader Inquiry Card** to request information on as many products or services as you like. We pay the postage.

We will save you not only the expense, but the hassel. All you have to do is circle the appropriate number(s), and fill in a couple of blanks. No more stationery, envelope, or address searches. Once the card arrives in our postal box, we will do the rest, and our sponsors will be sending out the information you request. Simple enough? Good, it is exactly what we planned.

If you know someone else who would like to receive **WAC**, you can place his or her name on the **Reader Inquiry Card** as well.

After paging all the way through **WAC**, you will end up on our regular back cover calendar. We hope you will enjoy this feature, along with our used glider bluebook, below.

In fact, we hope you just love your **WAC**!

for Idea Graphics, Publisher

Smooth lift.

Editor

## WAC'S USED GLIDER BLUEBOOK

The **WHOLE AIR CATALOG** used glider bluebook begins modestly with 32 glider quotes representing 13 brand names. These are not casual guess-timates, but illustrate **real** prices received by the customer or dealer. As you and your dealer participate in this report, its size and validity will increase rapidly. Please join in and grow with us.

Condition Report: **Rough** (craft needs work); **Average** (no work needed, craft well used); **Clean** (better than average shape, new or well kept); **Exceptional** (near perfect shape).

MFR	MODEL	SIZE	YEAR	CONDITION	ASKING	SOLD FOR	DEALER OR PRIVATE
Albatross	ASG-21	C	77	Clean	\$675	\$675	Priv
Bennett	Phoenix 8	Reg.	77	Average	750	650	Priv
Bennett	Phoenix 6B	Jr.	76	Clean	725	600	Priv.
Bennett	Phoenix 6B	Jr.	76	Average	450	325	Priv.
Bennett	Phoenix 6B	Jr.	76	Average	375	350	Priv.
C.G.S.	Falcon V	225	77	Clean	600	600	Dir.
C.G.S.	Falcon V	185	77	Clean	550	550	Dir.
Eipper	Flexi III	185	77	Clean	700	550	Dir.
Eipper	Flexi II	240	76	Rough	450	375	Dir.
Eipper	Cumulus V	185	75	Exceptional	400	400	Priv.
Eipper	Cumulus VB	180	76	Clean	500	400	Priv.
Eipper	Cumulus VB	180	76	Clean	425	425	Priv.
Electra	Cirrus	3	76	Average	600	425	Priv.
Electra	Olympus	160	77	Clean	750	650	Priv.
Electra	Olympus	160	77	Exceptional	900	750	Priv.
Electra	Cirrus	2	76	Average	600	525	Dir.
Electra	Cirrus	3	76	Average	600	550	Dir.
Electra	Cirrus	2	77	Exceptional	800	700	Dir.
Electra	Olympus	180	77	Average	600	600	Dir.
Electra	Cirrus	2	76	Average	550	450	Dir.
Manta	Fledgling	A	76	Clean	1000	950	Priv.
Moyes	Maxi I	200	76	Clean	800	800	Priv.
Peregrine	Owl	160	77	Clean	750	650	Priv.
Seagull	VII	175	76	Clean	500	500	Priv.
Seagull	III	230	74	Exceptional	375	375	Dir.
Seagull	III	230	75	Clean	375	350	Dir.
Seagull	Seahawk	190	77	Average	650	650	Dir.
Seagull	Seahawk	\$70	77	Average	750	750	Dir.
Skyports	Kestrel	\$85	75	Clean	550	395	Dir.
Skyports	Sirocco I	156	77	Clean	900	800	Dir.
Sun	IV Modified	180	77	Clean	400	400	Dir.
U.P.	Dragonfly mk.2	185	75	Exceptional	750	500	Dir.
Wills	X-C	185	76	Exceptional	875	875	Priv.

We welcome, even request, your report of a used glider sale. Please provide all the above information. Do not report gliders still for sale, just ones very recently sold. The sales transaction must be complete with full exchange of money. WRITE: Crystal's Whole Air Catalog Bluebook, P.O. Box 144, Lookout Mtn. TN 37409

Front cover: "Soaring the solar winds" By Donald Baker

This is edition number 2 of the W.A.C. Bluebook. You will find many glider models listed below, categorized by the manufacturer. Oldest model years are listed first, broken down further to lesser performing models listed first, followed by high performance models.

The prices are based primarily on sales from the Eastern U.S. hang gliding community rounded to the nearest \$25.00 to facilitate your comparison. It must be recognized that some brands will command much better values in the areas where they are manufactured.

Some models can be retrofitted with components to bring them new technologies. This may increase their values over those shown in these tables.

Again, as with our May-June Catalog, we are aware that our Bluebook is not fully complete. We have, however, made every attempt to obtain true and consistent figures. This issue we have given a range of prices being clean to average. We hope it has value to you in deciding the value of your own glider, or that of one you wish to purchase.

## WHOLE AIR CATALOG Used Glider Bluebook

MFR.	YEAR	MODEL	SIZE	CLEAN	AVG.	PRICE	PRICE	MFR.	YEAR	MODEL	SIZE	CLEAN	AVG.	PRICE	PRICE
<b>ALBATROSS SAIL GLIDERS</b>								<b>MANTA PRODUCTS</b>							
	76	ASG-20	C	750	550				75	Fledgeling	1A	750	375		
	76	ASG-21	C	800	675				76	Fledgeling	1A	800	550		
<b>BENNETT DELTA WING</b>								<b>MOYES DELTA WING</b>							
	76	Phoenix 6B	Jr.	725	350				77	Mirage	175	800	700		
	76	Phoenix 6B	Reg.	675	400				76	Midi	220	850	750		
	76	Phoenix 8	Reg.	750	450				76	Maxi I	200	900	725		
	77	Phoenix 6C	Reg.	700	550			<b>SEAGULL AIRCRAFT</b>							
	77	Phoenix 6C	Sr.	700	650				75	Seagull III	220	375	325		
	78	Phoenix Super 8	Reg.	1050	800				76	Seagull III	220	425	375		
<b>CHUCK'S GLIDER SUPPLIES</b>									76	Seagull VII	174	700	475		
	76	Falcon V	225	600	500				77	Seahawk	170	800	675		
	76	Falcon V	185	650	450				77	Seahawk	190	825	650		
<b>EIPPER FORMANCE</b>									78	10 Meter	—	1075	975		
	75	Flexi II	240	400	200			<b>SKY SPORTS</b>							
	75	Cumulus V	180	550	400				76	Bobcat II	204	600	425		
	76	Cumulus VB	180	450	375				76	Kestrel A	185	675	500		
	77	Flexi III	185	700	550				76	Kestrel A	220	725	525		
<b>ELECTRA FLYER</b>									76	Merlin	160	800	650		
	75	Pathfinder	20-18	200	150				77	Sirocco I	156	950	850		
	76	Nimbus	20-17	350	250				77	Sirocco I	175	1000	850		
	76	Cirrus	3	625	425			<b>ULTRALITE PRODUCTS</b>							
	76	Cirrus	2	750	550				76	Dragonfly Mk. 2	174	800	425		
	77	Cirrus	3	625	475			<b>WILLS WING</b>							
	77	Cirrus	2	800	625				75	Swallowtail	22-20	250	175		
	77	Olympus	160	800	500				76	SST	90	775	625		
	78	Cirrus 5	C	850	675				76	SST	100A	775	600		
									76	SST	100B	825	600		



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## PUBLISHER'S COLUMN:

The Whole Air Catalog is NOT a news publication. It is a buyer's sourcebook, a place to find out what is available. We try to make this process very easy, hence this short article to help you get the most from WAC.

We consider that our efforts are in the interest of the consumer. Some say we just run ads like you see elsewhere, but that is not entirely true. WAC is a catalog; our main objective is to provide product and service information. Much effort has and will be extended to have our ads be different from those regular versions in the news publications. We ask our sponsors to run ads with more specifications, comparisons, detail photos, and test results. In WAC we hope to give you more information useful to you in selecting merchandise for purchase.

Notice how the products and services are grouped together. For example, we think putting all the harnesses

in the same area not only makes them easier to find, but facilitates your comparison.

The little number on every ad makes it easy for you to get more literature and order forms, without any expense. All you do is find the reader card we have inserted, and keep it handy while you are paging through your new WAC. Then, with every product or service that interests you, just circle the related number on the card. Of course, you must allow about three to six weeks for delivery of the information. We have to process literally thousands of such requests each issue, and do not use a computer to do so. If you are in a hurry, you are invited to write the sponsor direct, but please mention WAC in your letter. Advertisers are always desperate to know where you found out about their products.

While examining the products in the catalog, you will come across a growing number of consumer-oriented

features. The "Used Glider Bluebook," a popular original feature, can help determine the value of your glider or one you may want to buy. "Hang Gliding Statistics" was so overwhelmingly well received that we are going to keep it in each issue with new and fresh statistics. This service is new to hang gliding. We are honored to be the people with the raw information to use in building statistical surveys. In our 'regionalized' Calendar of Events, we try to make vacation planning as easy as possible. That is why we separated activities into geographical headings. The "Crystal Corner" is a safety column, new this issue; if you respond favorably, you will see more of it.

Well, that's WAC for September-October. Your interest and support is appreciated! Hope you can find WAC the source that gives you the most.

Dan Johnson,  
 Publisher



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## PUBLISHER'S COLUMN:

One time or another, nearly everyone has a disagreement or a dissatisfaction with a product, service, company, or procedure. Perhaps you have sent a deposit, and never received your purchase. Perhaps you were sent the item, but charged wrongly or excessively. Maybe you got damaged merchandise, or had trouble getting service or warranty promises fulfilled. The list could go on, but what do you do?

Many metropolitan newspapers have tried to help similar situations become resolved to the relief of both customer and supplier. Most such unhappiness results from poor communication, and there exists no forum from which one person can release his or her complaints. Sometimes, a consumer feels he or she can be simply ignored by a large company or powerful person. But big newspapers have been rather

successful at speaking for the "little guy" as their printed word carries a large impact. Good will is a very important asset to big firms and bad press will prove most detrimental.

### HANG GLIDING CONSUMER ACTION LINE

Some newspapers call it "Action Ten," or "BeeLine." The name is not important. The service is. What we want to know is, "Do hang gliding enthusiasts want this sort of service?"

While we realize that the **Whole Air Catalog** may not be able to help a consumer in all situations, just airing the problem will get communications moving. Those problems that have a common thread with the difficulties of others will be printed on our proposed "Consumer Action Line" page each issue. Also printed may be purchase

snags that hold good human interest or reader appeal.

It will take some time to get the movement of communications underway. But, we **will** write letters and make phone calls. We will print the letters and our results of some intriguing incidents. And we are sure that the threat of bad press will discourage those few suppliers whose intentions are less than honorable. Honest errors or failures may be more readily rectified. Both corrections will be good for the "little guy." All we want you to do is vote — yes or no on the appropriate space of our reader card. Give it some thought and make your mark. Enough positive response and we will go ahead with the service, explaining its operation in the January-February **Whole Air Catalog**.

Dan Johnson, Publisher

# PUBLISHER'S COLUMN:



Welcome to 1979. As a new year begins, we hope for great improvements in the aviation sport of hang gliding. Our foundation is broader and stronger than ever; the future can be bright if we make it so.

The **Whole Air Catalog** will carry its share. We have spent the winter weeks as most manufacturers, designing and improving. As you page through the '79 **Whole Air Catalog**, we think you will find much new information. It is done in an uncomplicated style we believe you will enjoy. And yet, this is just the beginning.

Gone is the catalog format for a more helpful, more entertaining consumer magazine. We will serve the industry better than ever by fostering communications between the buyers and the sellers. The approach will seek to remain positive and useful.

**WAC** now has several columns, which will appear regularly as Departments of the new **WAC Magazine**. You will find them easily, grouped near the front of each issue.

This issue has a main feature interview with Region 10 Director, Dick Heckman. Hang gliding is enriched by having this NASA engineer as one of its enthusiastic and hard-working proponents. Every pilot will want to read what Heckman has to say . . . about our national organization (or lack of it), and many other areas concerning our favorite pastime.

As our sport hovers under the dark cloud of uncertainty regarding governmental regulation, Dick's words may offer wise advice to all who delight in the freedom we currently possess.

You can help. Get involved. We list the USHGA Regional Directors and the means to contact them as a follow-up feature. It is toward the rear with our Crystal Corner column, speaking on the safety of back-up-systems. Help yourself, and all of us, by examining both articles. Last, use your Reader Inquiry Card — it's free!

Dan Johnson



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# PUBLISHER'S COLUMN:



Dan Johnson

On the eve of our First Anniversary Issue, we have assembled our best contribution to date. This March-April **Whole Air Catalog** culminates our first year of publishing.

We begin with our popular columns, including the now famous, and widely read, "Hang Gliding Statistics." This edition we present a new survey into back-up 'chutes. Also appearing in this longest yet **WAC** (40 pages) are two other frequently requested columns, the "Consumer Action Line" and the "Used Glider Bluebook."

Pages 14 and 15 carry a special art pictorial by Chattanooga pilot-artist, Don Baker. It's the first of a series called "Past thru Tomorrow." Baker created the cover art for the very first **WAC**. Following that is our central feature, written by **Hang Gliding's** Eastern Editor, Paul Burns. We believe you will all be held by Burns' inspiring story entitled, "The Comeback." The article relates the struggles of a very determined hang glider pilot. Burns uses his unique style to create a very real and moving account.

The new feature material goes on strong with Hank Syjut's easily read technical investigation into solar/wind powered Ultralights. Syjut is known to those aware of hang glider art — he did the last **WAC** cover — and provides his own creative illustration (see page 32). Another of our columns, the "Crystal Corner," has two parts this issue. Writer Michael Smith first reports on Crystal's parachute seminar, held in early March, then offers some sensible thoughts on hang glider aerobatics.

You will find even more content, as we introduce a new column. On page 38, "Product Lines" reviews industry news in a simple, relaxed style reminiscent of Bill Allen's very successful "Flying Bull" column (**Hang Gliding**). Included in "Product Lines," we have highlighted some upcoming events that we believe will be of great interest to many pilots who are planning flying trips.

All in all, we are pleased with this issue as a pilot hooked in a big thermal. We hope you are also, and by the time you close the rear cover, we hope you will scan what's coming next with pre-launch anticipation.



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## PUBLISHER'S COLUMN:



Dan Johnson

Here it is, our Anniversary Issue, complete with a little **WAC** history on page 4. We begin with our two leaders, "Statistics" and "Used Gliders." At one year old each, they can boast great popularity.

Then on page 14, we start the George Worthington feature "Hang Glider Performance." This is George's first time to grace the pages of the **Whole Air Catalog**, and we are glad to have his expertise. Enjoy his look at the merit of speed for gliders. The Worthington style is universally well liked. Next is Don Baker's series, "Past Thru Tomorrow." We received a lot of good comment on Don's first contribution, which highlighted some pioneer hang gliding crafts. In this issue he will delight your eyes with some futuristic renditions that are decidedly unique.

As federal regulation shadows ever more around us, we wanted to present another way of looking at the controversy. So, resembling the popular TV show, **60 Minutes**, we approached two respectable, fellow pilots for their distinctly opposed views. In a positive manner, they each present their informed opinion. We hope you pause thoughtfully with the two Richards, Stern and Heckman.

In last issue's very successful story, "The Comeback," Paul Burns proved his style is enthusiastically appreciated. This issue Paul contributes some hang glider fiction. While this is not the first such trial, we think you'll chuckle and grin through this interesting piece of writing. For more opinion, read your own, as we launch a brand new column, "Forum," on page 24. Distilling just a few comments was the difficulty. Selecting was tough for which cards were best representative of many similar ones, or cleverest, or merely what we thought you would like to read.

Last we close with two very popular columns, "Crystal Corner" (now renamed "Safety Tips"), and "Product Lines," with Coming Next Issue, on our pretty rear cover.

Subscribe!



# WHOLE AIR CATALOG

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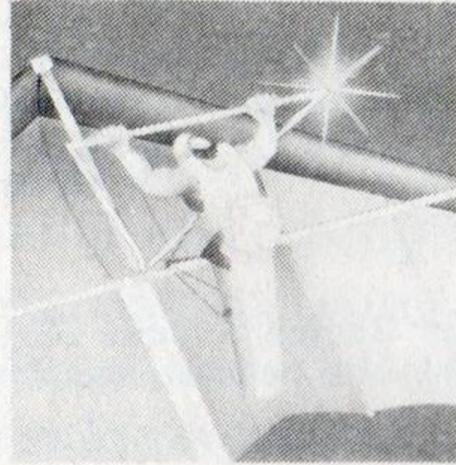
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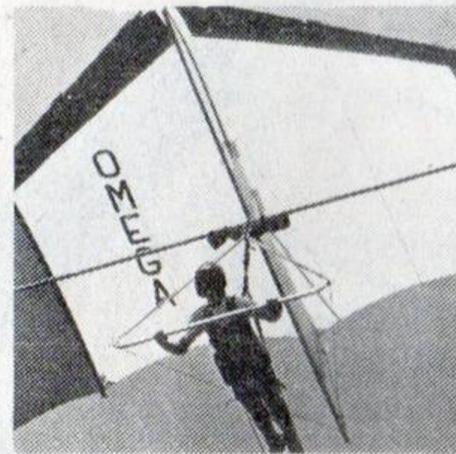
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**ON THE COVER:**

National Champion Eric Raymond caught by LeRoy Grannis' motor driven camera on the back of a loop during a recent commercial filming.



**DUAL WAC GLIDER  
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**ON THE COVER:**

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Hank Syjut with Rod Gay (photographer) coming down after their mile high tandem flight at Lookout Mountain.

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**ON THE COVER:**

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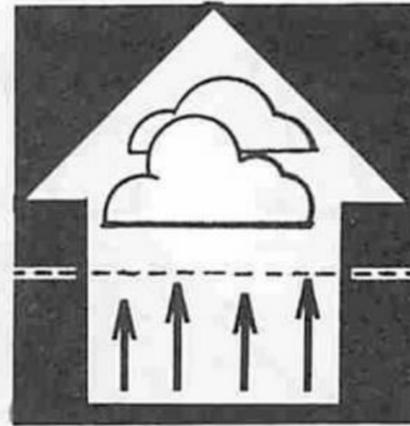
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Roy Haggard  
J. C. Brown

**ON THE COVER:**

More photo artistry from Leroy Grannis as San Francisco area pilot, Dan Racanelli is seen banking at Westlake in his double-surfaced Stratus.

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Steve Pearson  
Dick Boone  
Tom Peghiny  
Chuck Slusarczyk  
Roy Haggard  
J. C. Brown  
John Lasko  
Tom Price

### ON THE COVER:

In flight formation . . . with John Lasko on the photo Quick, catching Rob Kells and Dan Racanelli, on Harriers as they slide in close.

## FEATURES



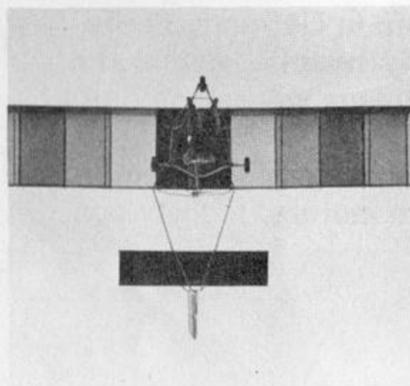
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**MASTERS, NATIONALS CUP, 1980** . . . . . 25-27



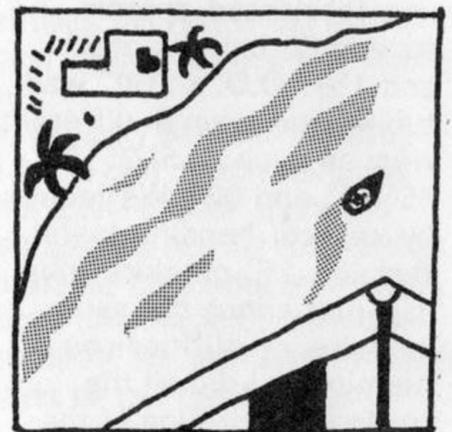
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Henderson

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- 18 YOU CAN LEARN ABOUT FLYING FROM THIS . . .  
Our English contributor, Noel Whittall, gives us insight into "Mother Nature's Sucker Punch."

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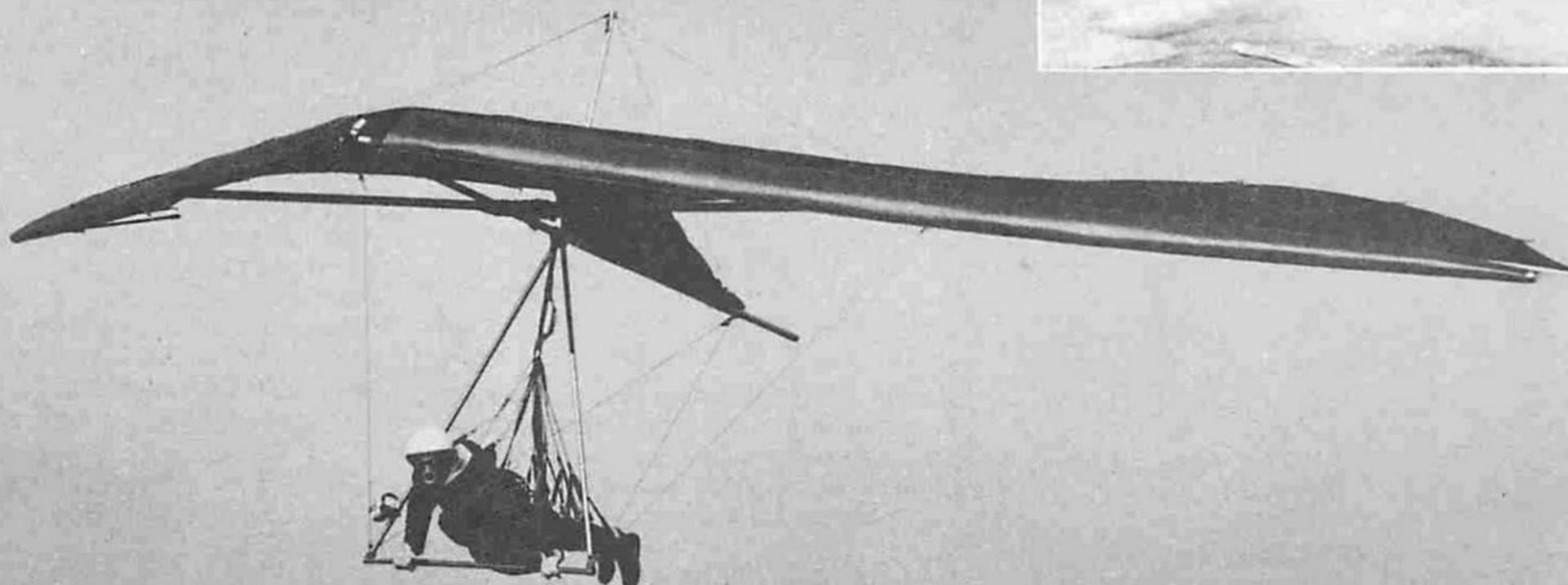
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- 26 SUSPENSION SYSTEM TESTING  
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- 28 FLYING IN HAWAII  
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- 32 HARRIER  
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- 38 AN INTERVIEW WITH DICK TURNER  
An inside look at our national organization by one of the executive committee members.

- 42 THE CABLE SUPPORTED GLIDER  
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- 46 LOCKED OUT OF CONTROL  
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ISSUE NO. 18 VOLUME 4, NO. 2, 1981

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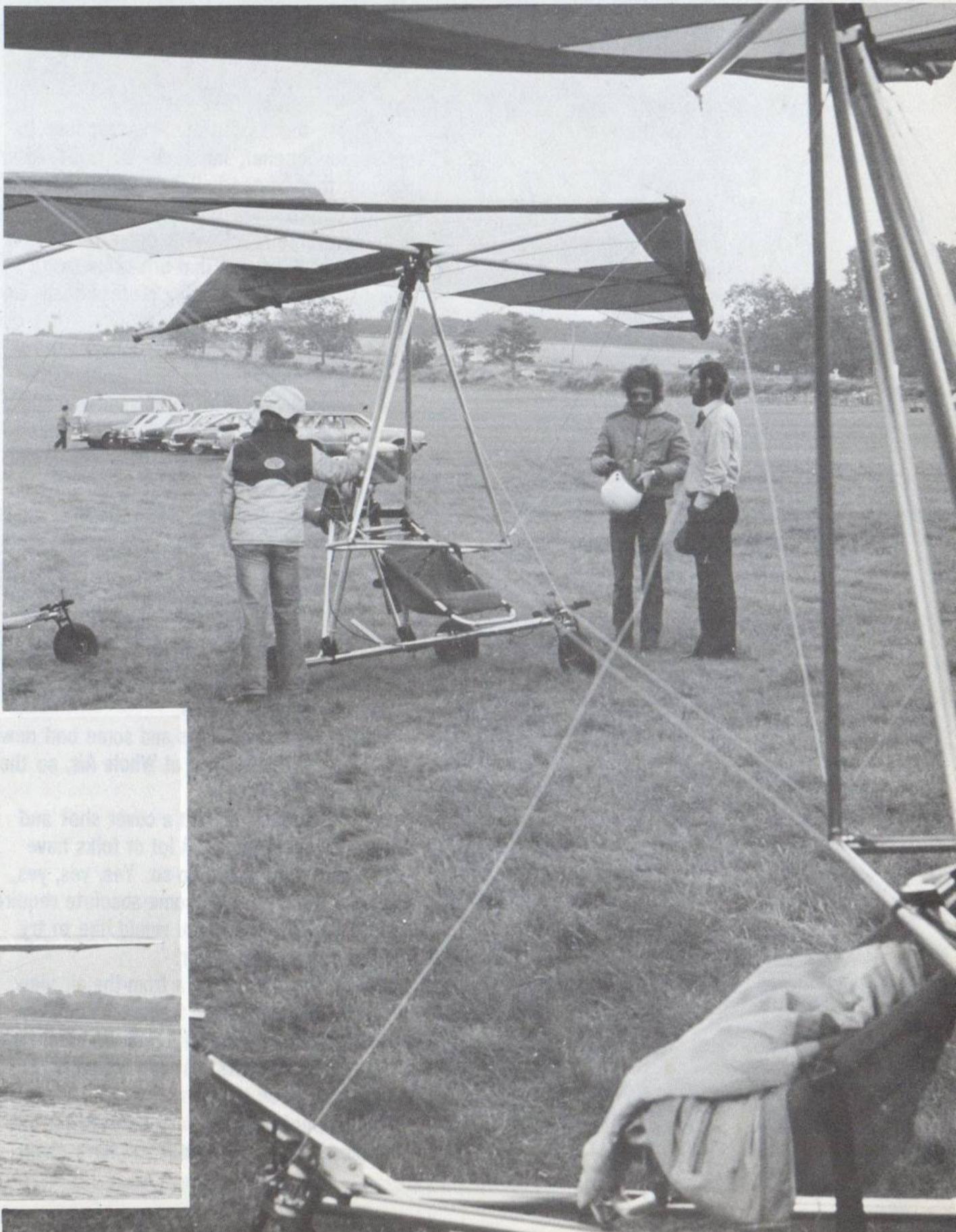
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- 42 ONTARIO FLYING SITES  
Dune flying is made more accessible by Glenn Russell's contribution.
- 28 TRIKES  
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- 34 NATIONAL CHAMPIONS  
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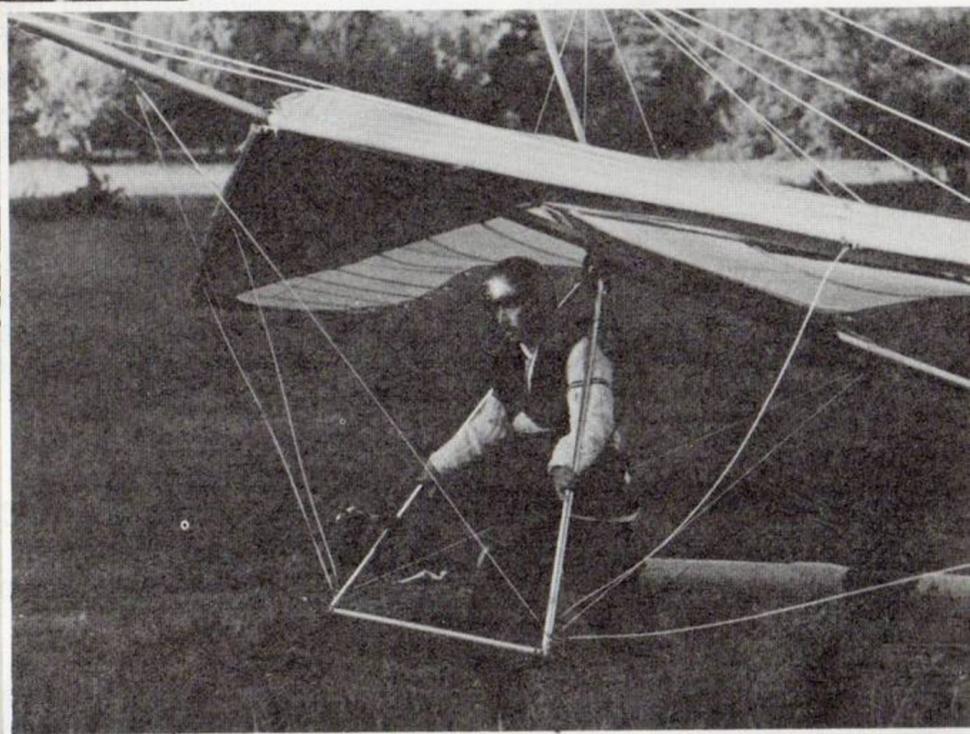
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- 24 **FLYING CERRO GORDO**  
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- 28 **STRATUS VB**  
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- 34 **ULTRALIGHT OWNER SURVEY**  
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- 39 **WHAT DO ULTRALIGHT PILOTS WANT?**  
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Here's your chance to vote on needed improvements on ultralight aircraft.
- 42 **SOUTHERN CALIFORNIA FLYING SITES**  
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- 39 **CONCEPTS**  
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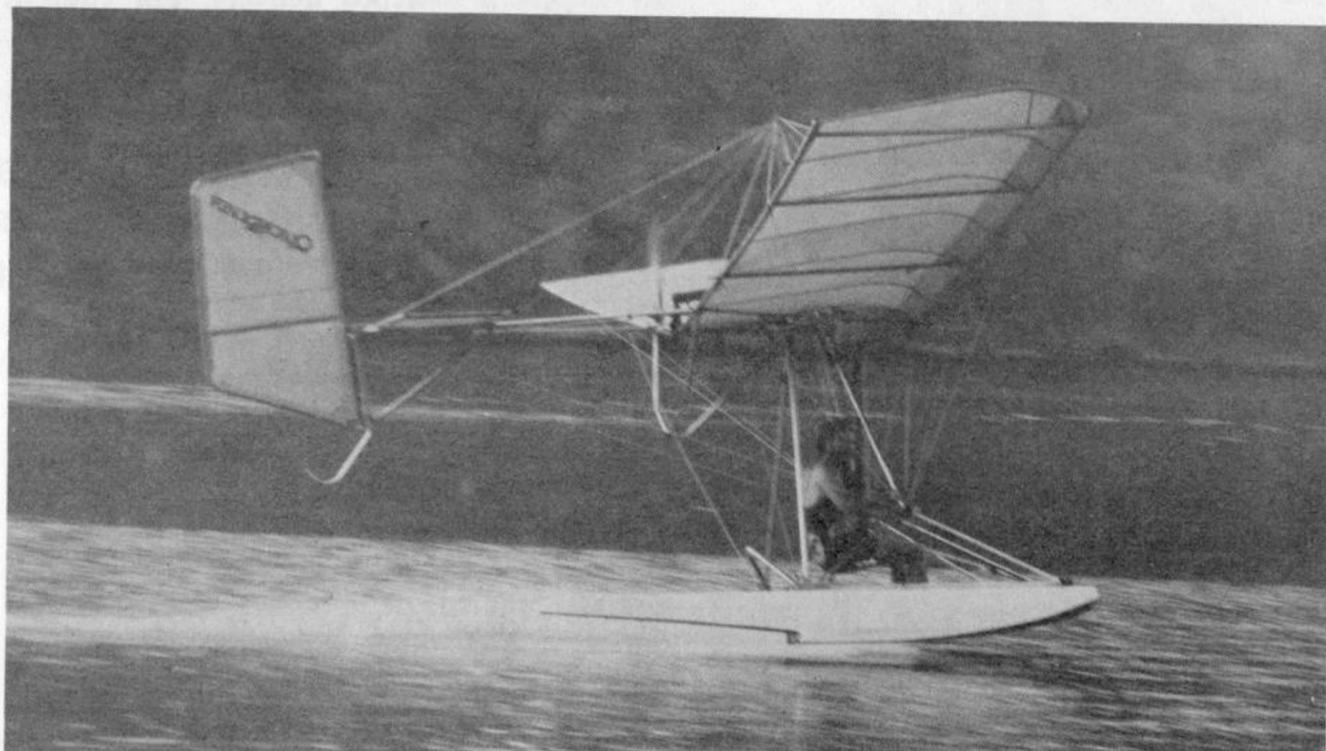


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- 26 **1981, NATIONALS**  
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- 28 **IF YOU'VE GOT IT ... FLOAT IT!**  
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- 34 **PARIS AIR SHOW**  
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- 44 **INTERVIEW**  
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- 46 **TOW SYSTEMS**  
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- 22 **"HOW MUCH IS THE FAA GOING TO ASK FOR TO ENFORCE THESE REGULATIONS?"**  
Region 10 Director, Dick Heckman, asks this question in response to the FAA's issuance of the NPRM.
- 36 **TRIKE UPDATE**  
Several experienced pilots from across the country gave us their "Pilot Reports" after flying a trike system for the first time.

## FEATURES

- 24 **PARACUTE SEMINAR**  
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**THE BEST 20 BUCKS I EVER SPENT.**  
Chuck Toth recalls the first "in the air" parachute seminar, and talks of a second.
- 26 **DEMON**  
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- 34 **V-BRIDLES**  
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- 40 **OSHKOSH '81**  
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Photo by BJ



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- 30 TALES FROM WALES  
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- 38 TOW LOG (Notes from the Towing Logbook)  
Some good "there I was" stories by the Florida Flyers.

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- 32 AOLUS PILOT REPORT  
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Photo by Hugh Morton

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- 23 COCOON HARNESSSES  
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- 36 FLYING THE JET WING  
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Photo/Barnette



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An on-going Mini-feature in *Whole Air* which will take a look at all the major National Class hang glider shops.
- 26 THE YORKSHIRE AMERICAN CUP  
Noel Whittall gives us a briefing on the upcoming American Cup, this year in England.

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Legal flying of ultralights shared by American and German craft sparkles the Hanover Airshow.
- 26 TOWING  
Skyting revisited. Much interest was expressed in this newest system of safe towing, so here it is further defined.
- 30 PILOT REPORTS  
Four pilots look at three intermediate gliders from industry giants — Wills Wing, Flight Designs, and UP Sports.
- 37 BENNETT TRIKES  
For a year and a half now, hang gliding leader Bill Bennett has sold trike units. Here's what has changed.
- 42 ULTRALIGHT OWNER SURVEY FINALE  
Glenn Brinks tells all, with the help of many owners, in a survey conducted from mid-1981 till early 1982.
- 50 TRIKE CROSSROADS  
Noel Whittall brings us up-to-date in England by reviewing all the trike suppliers in the country that started it all.

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## PILOT'S PERSPECTIVE

- 20 SUSPENSION SYSTEMS  
Greg Shaw ends some common mysteries about karabiners, hang loops, and harnesses.

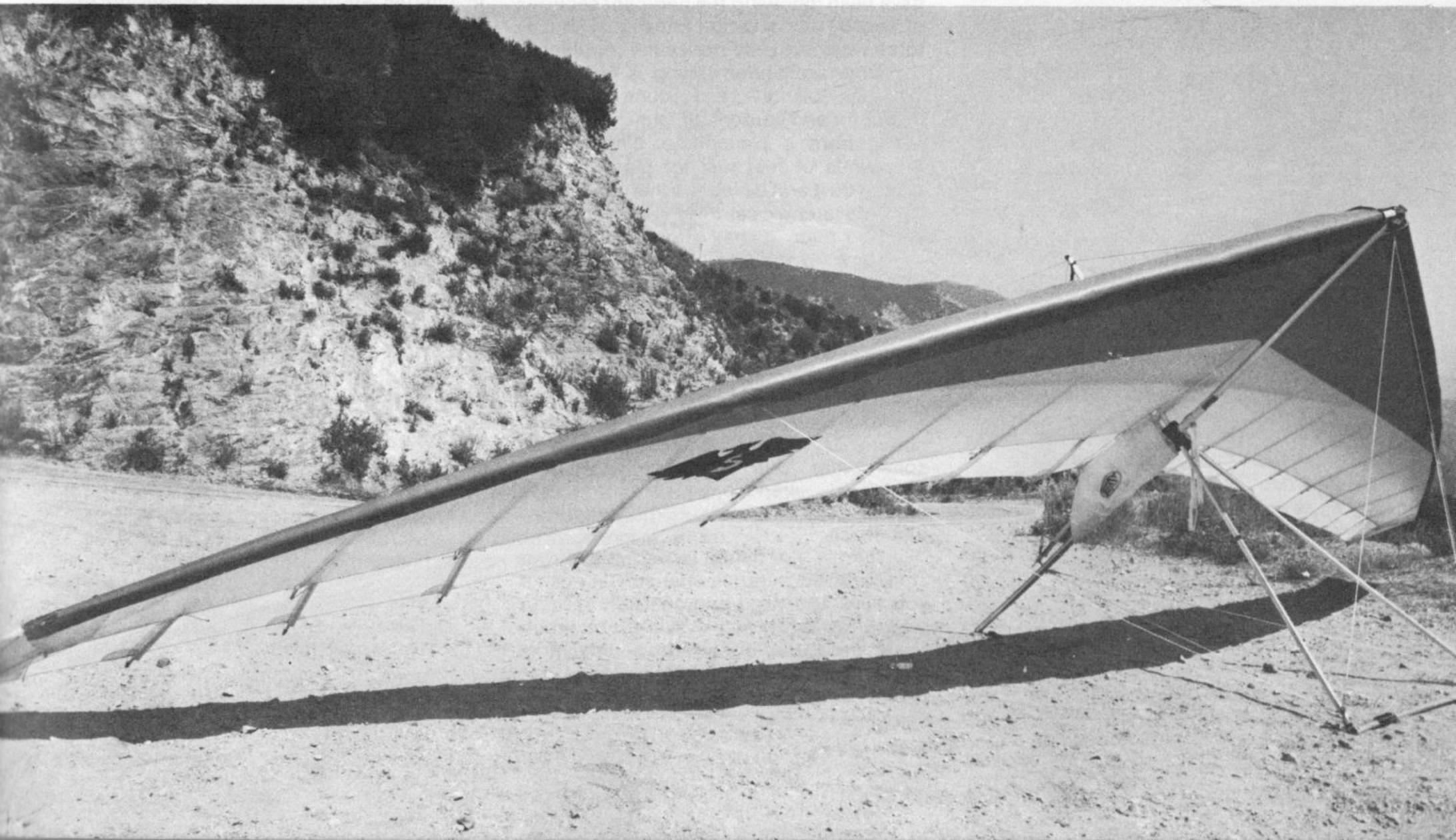
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- 30 PARADISE VALLEY  
Our cover story is a theoretical flying resort, produced by architect, Gary Braun.
- 36 CONVERGENCE AT OSHKOSH  
The 30th Annual EAA Convention holds some surprises for soaring enthusiasts.
- 44 LARIANO TRIANGLE  
One of the most interesting X-C competitions, this one in Italy, is reported by Tony Masters.
- 48 AMERICAN CUP IV  
The Dales Cup is reported by our British Editor, Noel Whittall.

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## PILOT'S PERSPECTIVE

- 22 BEACHED IN BARBADOS  
Some views and thoughts on flying the island by the first man ever to do so.
- 26 AERO MARKET PLACE  
Kitty Hawk Kites is the location of our second shop review.

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- 18 SOARING ULTRALIGHTS  
Tom Kreyche tells us about the Owens Valley Ultralight Soaring Trials '82, the first of its kind.
- 24 IN THE AIR ON A BREEZ  
Staff Photographer, BJ Schulte, captures Pro Air's Intermediate Breez in pictures and words.
- 28 AEROBATIC CHAMPIONSHIP  
On — Off — then On again, the Second Telluride Aerobatic Contest is reported by David Stanfield.
- 33 CONTOURING HENSEN GAP  
Designer turned author, Dennis van Dam, chronicles the most unusual and well executed launch ramp in the world.
- 38 LONGEST EVER MASTER'S  
The epic tale of Grandfather's prestigious meet is reported again this year by resident and Launch Director, Aer Stephen.
- 48 THE PINECREST NATIONALS  
John Zerlinden gives us a recap of a differing sort on the 1982 U. S. Hang Gliding Nationals.

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# WHOLE AIR

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## PILOT'S PERSPECTIVE

- 21 GLIDER OWNER SURVEY  
It has been done for ultralights, but this is the first time *ever* for hang gliders. Please do participate.

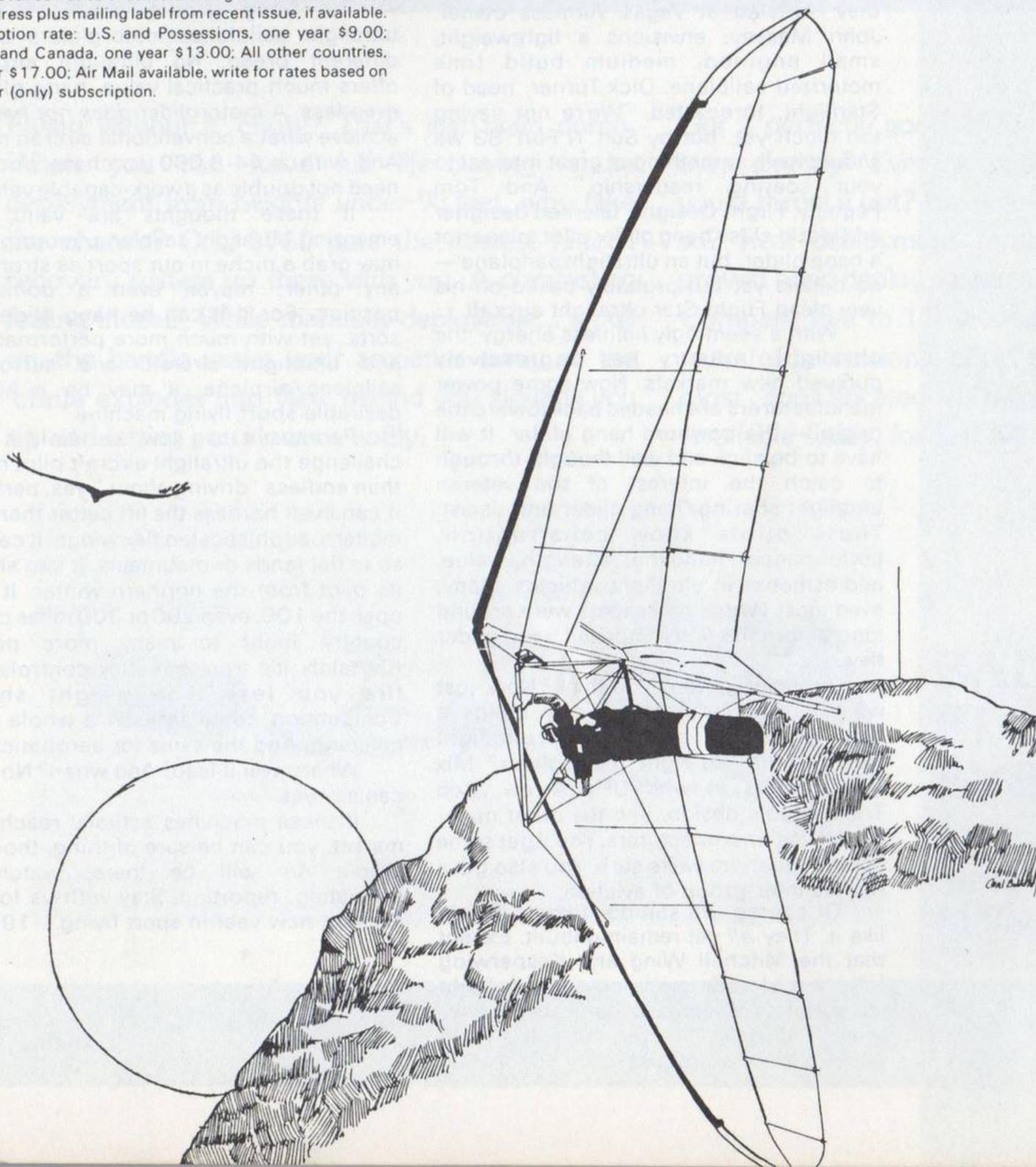
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- 25 MANUFACTURERS TOUR  
Unprecedented look at seven of the major and minor hang glider manufacturers in the United States today.

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- 43 PROJECT: SOARING TRIKE  
A look at new designer, Bruce Wolfe and the trike unit he thinks just might soar.
- 47 GLIDER OWNER SURVEY  
Another chance to participate in the First Ever Glider Survey.
- 50 DOUG'S DIVE  
Illustrious pilot, Doug Barnette proves you can make money in hang gliding *and* maintain your self respect.

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## FEATURES

- 14 ACCIDENT REPORT 1982  
On a subject such as this, there is seldom anything positive to report. But this last year has recorded the lowest number of fatalities ever. Are we becoming safer?
- 21 THE STREAK  
Prominent pilots, Ron Young and Jeff Scott lend their expertise on the Streak in regards to its aerobatic and performance abilities.
- 28 HAWAII  
Lani Akiona gives us a cross country tour of the island that made pineapples famous.
- 33 AERO TOWING AND SKYTING  
Can these two systems work together to help us accumulate airtime, and what equipment is needed? We look at all sides as we introduce Part I of a multiple series, this one called "GEARING UP TO TOW."

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### Coming Next Issue:

*Whole Air's* First Annual Buyer's Guide. Don't Miss It!



## PILOT'S PERSPECTIVE

- 21 GETTING MENTALLY READY TO FLY  
Roger Coxon offers a few sage words of advice about preparing to fly in a new season.
- 23 ONE RAINY DAY  
Another amusing Bob Lafay cartoon about Dan E. Thrasher, stereotypical hang glider pilot.

## FEATURES

- 24 NEW GLIDERS FOR SPRING  
Merry old England is busy cooking up appealing new designs, and British Correspondent, Noel Whittal provides an overview.
- 28 DUAL TRIKES  
In response to many reader inquiries about two seat trikes, we asked the same Noel for a report from the country that started the triking action.
- 34 FIRST ANNUAL ACCESSORY BUYER'S GUIDE  
*Whole Air's* largest feature ever, as we present over one hundred useful hang gliding accessories, in the industry's most comprehensive listing yet published. You'll want to hang onto this issue all year.

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## PILOT'S PERSPECTIVE

- 39 CANADIAN SEASON OPENER  
A Humorous but satisfying beginning to a new season of flying in Eastern Canada, written by Douglas Madeley, illustrated by Albert Prisner.
- 44 THERMALS OF OZ  
Fiction by Eric Robinson views familiar surroundings in a different way.

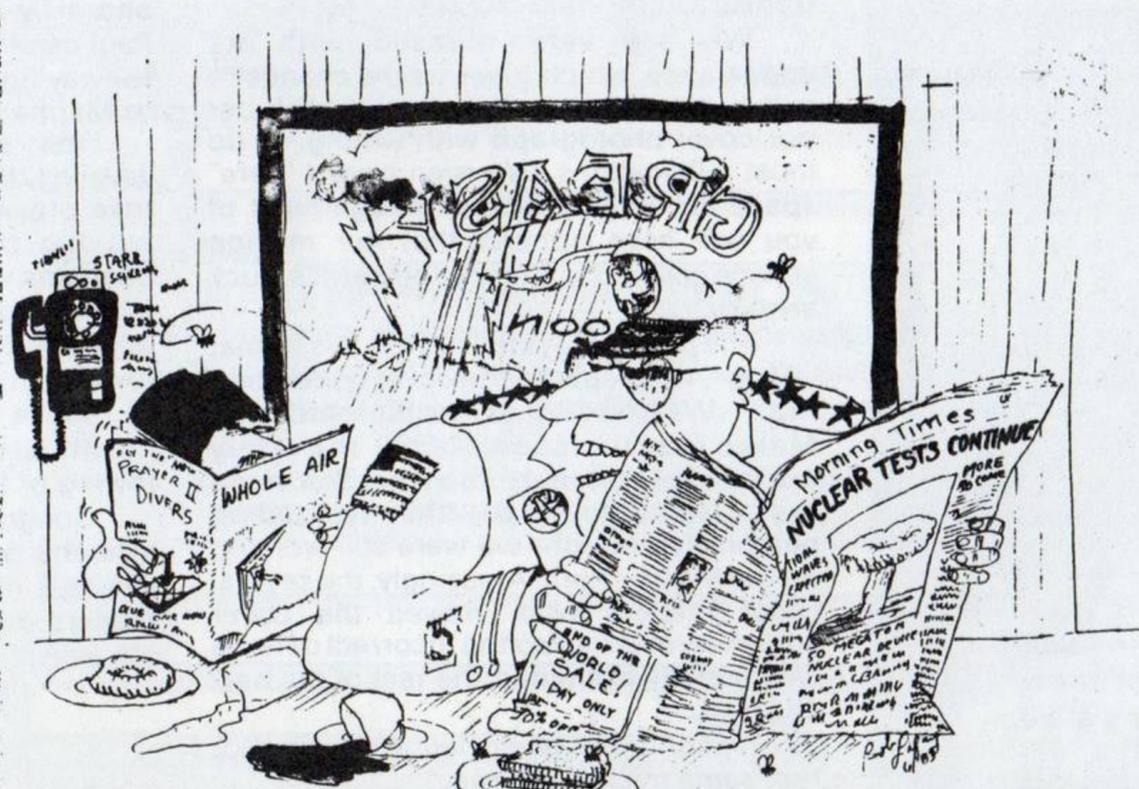
## FEATURES

- 18 SKYTING III — THE PITFALLS  
While towing has taken a new lease on life for 1983, partly due to the Skyting system, Inventor, Donnell Hewett offers some insight to the perils involved.
- 23 TENNESSEE TREE TOPPERS  
At the request of many readers, TTT President Rick Jacobs provides background on one of the country's most successful hang glider clubs.
- 30 SAILCLOTH TODAY  
Designer Steve Pearson gives a thorough look at the fabrics used in the construction of modern hang gliders. Sail cleaning is detailed by Mark Olson of Howe & Bainbridge.
- 34 MINI GLIDERS  
Micro sized pilots Diane and Marcie went and flew the Streak 130, Duck 130, and ProStar II 130. They sum up opinions on small high performance gliders.

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HEY BOY! YOU KNOW WHAT? IT SEEMS THAT EVERYTIME YOU CIVILIANS HOLD A HAND GLIDING MEET, YOU SCREW UP THE WEATHER.

## PILOT'S PERSPECTIVE

- 39 CASMO  
Hang Gliding's unique motel is now moreso with a new "Playground Sculpture."

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- 17 TWO TALES OF TEGELBERG  
The 1983 World Meet is described through the eyes of British Correspondent, Noel Whittall, and American Team Coach, Jeff Burnett.
- 22 TWO-TWENTY-ONE BY TUDOR  
Hang Gliding's longest flight just got 53½ miles longer. Read the entire on-location report by film-maker, Rick Masters.
- 28 AERO TOW LOG  
Part IV in our modern towing series gives some first time read-back on aero towing of flex wings.
- 32 LARIANO TRIANGLE  
The Fourth Lariano XC Contest had poor weather, but ranks as one of the world's fine distance meets.

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## PILOT'S PERSPECTIVE

**ONE FINE CHRISTMAS EVE**  
Our staff cartoonist, Bob Lafay tickles your flight funnybone as Dan E. Thrasher waits while Santa "cuts up."

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## FEATURES

- 14 **MASTERS OF HANG GLIDING**  
A daily log thoroughly covers the 1983 Masters Competition, by Doug Rice, on-location at Grandfather Mountain.
- 18 **THE BRITISH ARE COMING!**  
Airwave Gliders begins a powerful invasion of the immense U. S. market. Santa Barbara's Ken deRussy, and British Correspondent, Noel Whittall provide the story and a pilot report.
- 25 **THE 1983 U. S. NATIONALS**  
The crowning achievement of Terry Ferrer's hang glider writing career is an in-depth documentary of the Dunlap U. S. Nationals Competition.
- 34 **GETTING STARTED IN TOWING**  
Skyting's Donnell Hewett continues two years of alternative towing reports in *Whole Air* with a guide to the components you'll need.

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- 26 **MARINA'S STEEPLE CHASE**  
A good time competition where pilots race along a 12 mile course at times soaring 3 foot ridges.
- 28 **THE CROSSBOW**  
From England comes a unique homebuilt hang glider equipped with canard (and tail at one time).

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## FEATURES

- 14 **OWNERS SURVEY — COMET**  
Our 1983 survey of over 500 pilots brings unbiased glider reporting to the sport. Greg Shaw distills the responses and provides an evaluation.
- 18 **AERO TOWING REVOLUTION**  
After many issues of experimentation reports, aero towing is here, delivered by frenchmen Gerard Thevenot and Jean-Michel Bernasconi! This in-depth report covers the San Francisco and Tennessee clinics with the exciting promise of a new way to reach the clouds.
- 32 **OWNERS SURVEY — HARRIER**  
Our regular Owner Survey Editor, Bruce Wolfe, breaks down 6,000 answers on how pilots liked (or dis-liked) their Harriers.

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**NOTE TO READERS & SUBSCRIBERS:** This issue is titled MARCH 1984. It replaces the cover title of January/February, but represents a change in *title only*. The subsequent issue will be titled MAY 1984, and the balance of this years issues will be titled JUNE, AUGUST, OCTOBER, and DECEMBER. This title change *does not* signify any change in subscriber's copies per year, nor value received for payment.



"Is it a tow vehicle? . . . or is the glider just that heavy?"

## PILOT'S PERSPECTIVE

- 12 **BACK TO BASICS**  
England's Noel Whittall describes the Pixie trike as a soaring pilot's machine with extra low weight, and claiming a 240 fpm sink rate, engine off.
- 30 **LAND TOWING GEAR**  
Butch Pritchett has a pneumatic cylinder and guage allowing land towing in much greater safety by controlling the line tension.

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## FEATURES

- 14 **PRO AIR'S NEW DAWN**  
An exciting new high performance design is nearly ready from Dick Boone. Here's the early report on a whole new configuration.
- 21 **U-2 SUPERWING**  
Performance may take on a whole new meaning when the Mitchell/Morley U-2 Superwing prepares to enter production. Reported by developer, Tim Morley.
- 27 **EN-LIGHT-ENED DREAM**  
Reports from pilots, instructors and the factory tell the tale of Delta Wing's very successful new Light Dream intermediate craft.
- 32 **BREEZIN' ALONG**  
*Whole Air's* newest staff writer, Paul Burns, provides a Pilot Report on the trainer/intermediate glider series from Pro Air Company.
- 35 **OWNERS SURVEY — SENSOR**  
Number Three in the popular series of owner surveys this time takes us around Seedwing's impressive 510 210 models.

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## PILOT'S PERSPECTIVE

- 21 GARY'S 100 MILES!  
Finally, the East of the Mississippi Gang can celebrate a One Hundred Miler. Tennessee Tree Topper President, Gary Engelhardt tells you how he managed it.
- 34 THE FAA AND AERO TOWING  
Our newest Correspondent, Dave Higdon, poked around the Federal Bureaucracy to find out what the FAA is doing with USHGA's petition for aero towing exemption.

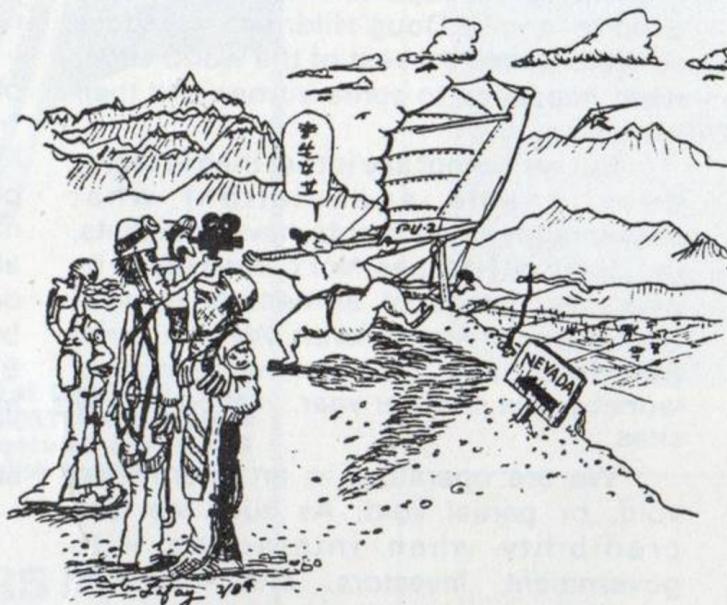
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## FEATURES

- 14 HORTEN'S FLYING WINGS, & EUROPEAN FLIGHT LINE  
As interest in "wings" thunders down the valley, new German Correspondent, Gib Eggen gives us a wealth of information on the amazing flying wings of Reimar Horten. Special-Use Archive photos help tell the story of the wings of the 1950's. Eggen also uses his new column, *European Flight Lines*, to give a closer look at hang gliding in Germany.
- 24 THE NOMAD PRONE TRIKE  
From England comes an odd-looking rig aimed right at the soaring pilot. See if it strikes your fancy. (First of two parts on prone trike ideas from Europe.)
- 26 GEMINI PILOT REPORT  
In his second installment, Paul Burns puts the 1984 Ultralite Products Gemini through the paces.
- 31 OWNER SURVEY — GEMINI  
Coordinating with a Pilot Report this issue, Bruce Wolfe tells you how the owners of Geminis answered over 2,000 questions.

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WHAT THE HEY! IT BEATS DRIVIN'  
OVER TO "SCAREY GORDO" WHEN  
IT BLOWS DOWN.

## PILOT'S PERSPECTIVE

- 26 **BOURBONNAIS' 107 MILES**  
Within days of Gary Engelhardt's precedent-setting 104-mile flight, Mark Bourbonnais of Canada flew 3 more miles for the new east coast record.

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## FEATURES

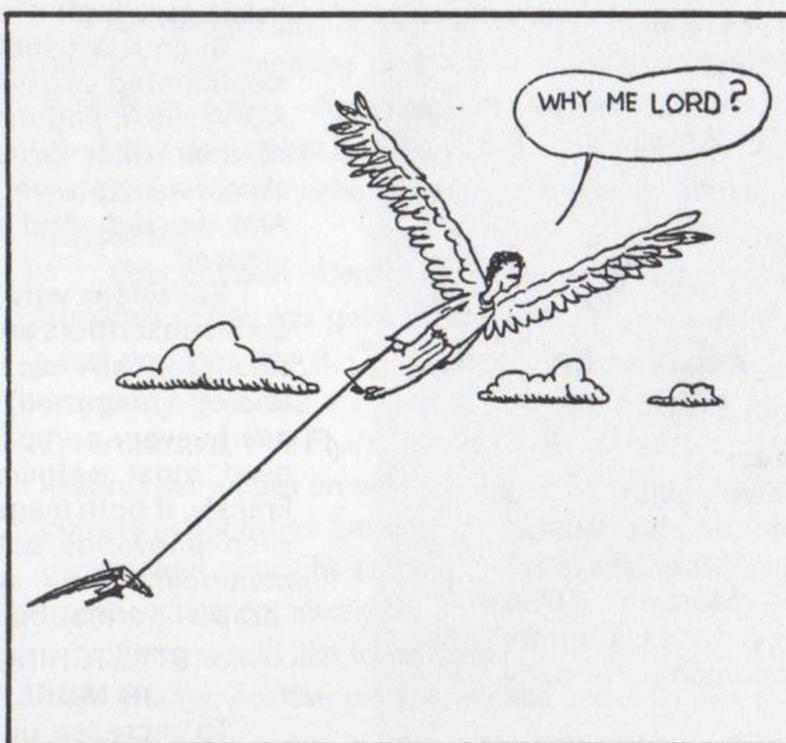
- 13 **SKYHAWK PILOT REPORT**  
With his third in-air report of the year, our Paul Burns tells you what he thinks of Wills' intermediate Skyhawk.
- 17 **AERO TEST I**  
The first, halting step in trying to determine just how well our modern Supershops perform. Pandora's Box has been opened with Seedwings' 13/1 Max L/D claim; here's some new ideas on the dilemma.
- 20 **"MINIMUM" MOTORGLIDER**  
Are the days of the ill-fated Soarmaster PP-106 returning to haunt us? Hardly, as an old theme takes on new life in Gib Eggen's *European Flight Lines* report from progressive Germany.
- 32 **PROSTAR OWNERS SURVEY**  
Read the most reliable opinions on Pro Air's ProStar, as Bruce Wolfe interprets some 2,400 answers to survey questions.

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Cartoon by Bob Lafay



## PILOT'S PERSPECTIVE

- 9 TEN YEARS AT GRANDFATHER  
Hugh Morton's Mountain celebrated ten years of hang gliding with some famous "alma mater" present.
- 10 LITEK — READING UP  
Well-known variometers come from Litek, but not much has been said about the company and its founder . . . till now.
- 13 CERTIFICATION IN BRITAIN  
England has no HGMA, but they now have a sophisticated test rig, as British Correspondent, Noel Whittal tells us.

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La Mouette Factory Tour  
Mitchell Wing Legacy  
New French Connections  
Views of Europe

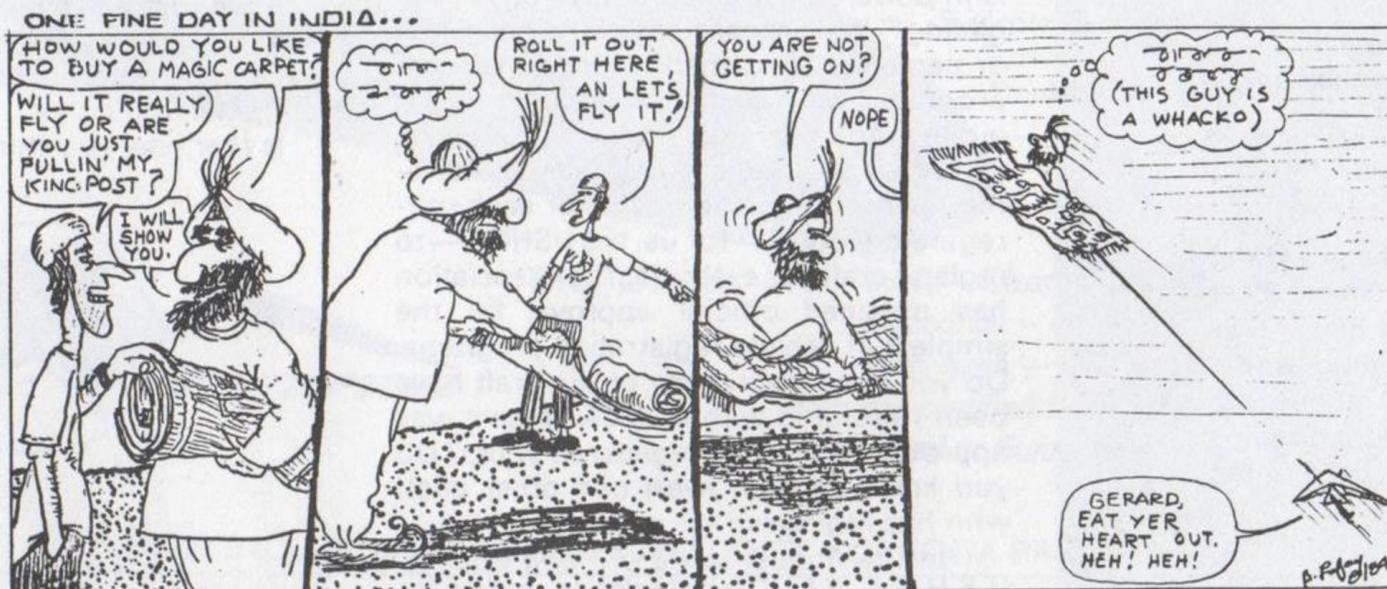
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- 15 DANGEROUS LANDINGS  
A how-to article from Canada for beginners and advancing pilots counsels you on a safe landing approach with some excellent illustrations.
- 19 STUFENSCHLEPP  
Stufenschlepp is German for *Step Towing*, a remarkably efficient system of towing, which has propelled a pilot to 7,775 feet (a world record it is claimed). Correspondent Gib Eggen covers the method in his *European Flight Line*.
- 24 OWNER DEMOGRAPHICS  
Read up on information about pilots, gleaned from Glider Owner Surveys on 226 forms -- 10,000 answers analyzed by Bruce Wolfe.
- 26 PI-REP ON THE MARS  
The intermediate glider from Moyes is the Mars, and Staff Writer, Paul Burns, tells you why he liked the model.
- 31 EUROPEAN CHAMPIONSHIPS  
Some names you'll know; others you can't even pronounce . . . are all in Alf Oppoyen's review of the 1984 European Championships in Vaga, Norway.

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## PILOT REPORTS

- 13 PRO-AIR DAWN  
So many requests have been received for more information on this unorthodox design that Paul Burns gave the model an Air Test.
- 25 WILLS WING "HP"  
The glider in development since May 1981 has made its appearance on the market. Report by competition veteran, Bruce Case.
- 31 LIGHT DREAM 185  
Paul Burns now finishes the American industry's intermediate glider market as he flies the Delta Wing success story for 1984.

### COMING NEXT ISSUE:

Mitchell Wing Legacy, Part II  
Towing & French Connections  
Tour of LaMouette of France  
Vision Pilot Report  
Owner Survey Wrap-Up  
Florida Tow Log, No. 4

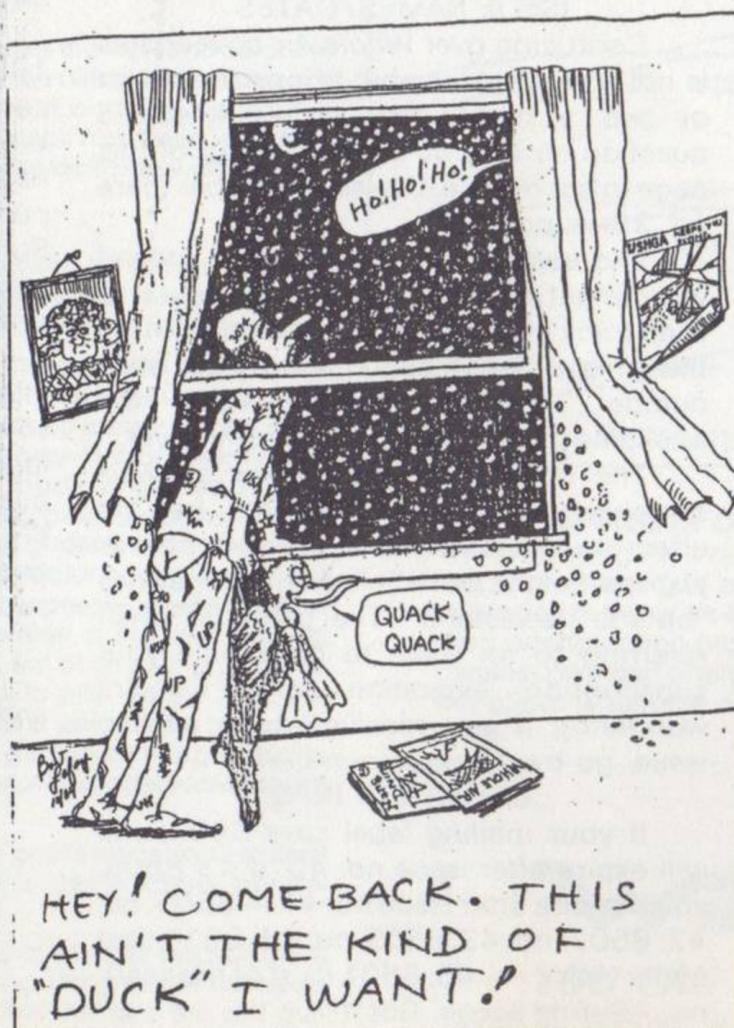
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- 9 UNITED KINGDOM — 1984  
British Correspondent, Noel Whittall, wraps up the sporting year of 1984 in retrospect.
- 16 NEW FROM EUROPE  
*European Flight Lines* takes you around three interesting areas: Power Steering Systems; the Keller Integral harness; and a Flying Wing update.
- 20 MITCHELL WING LEGACY  
Part One of Two in our epic coverage of the amazing Mitchell Wings. . .this time its history and its renaissance.

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cartoon by Bob Lafay

## PILOT REPORTS:

- 30 **PACIFIC WINDCRAFT VISION**  
The intermediate market's first entry in a double surface design is the subject of Paul Burns' pilot report this issue.
- 33 **PIREP RECAP**  
After a year of intermediate pilot reports, Burns re-reviews his findings and feelings, and compares all the top names to one another.

## PILOTS PERSPECTIVE:

- 18 **1985 AND BEYOND ...**  
In a slightly whimsical and humorous piece, our British Correspondent Noel Whittall writes on some problems that may arise when hang gliding gets into the Olympics. Read and chuckle.

## COMING NEXT ISSUE:

Hang Gliding in Russia  
Tour of La Mouette of France  
Magic III Pilot Report  
Soaring In India  
The Hang Plane Revealed

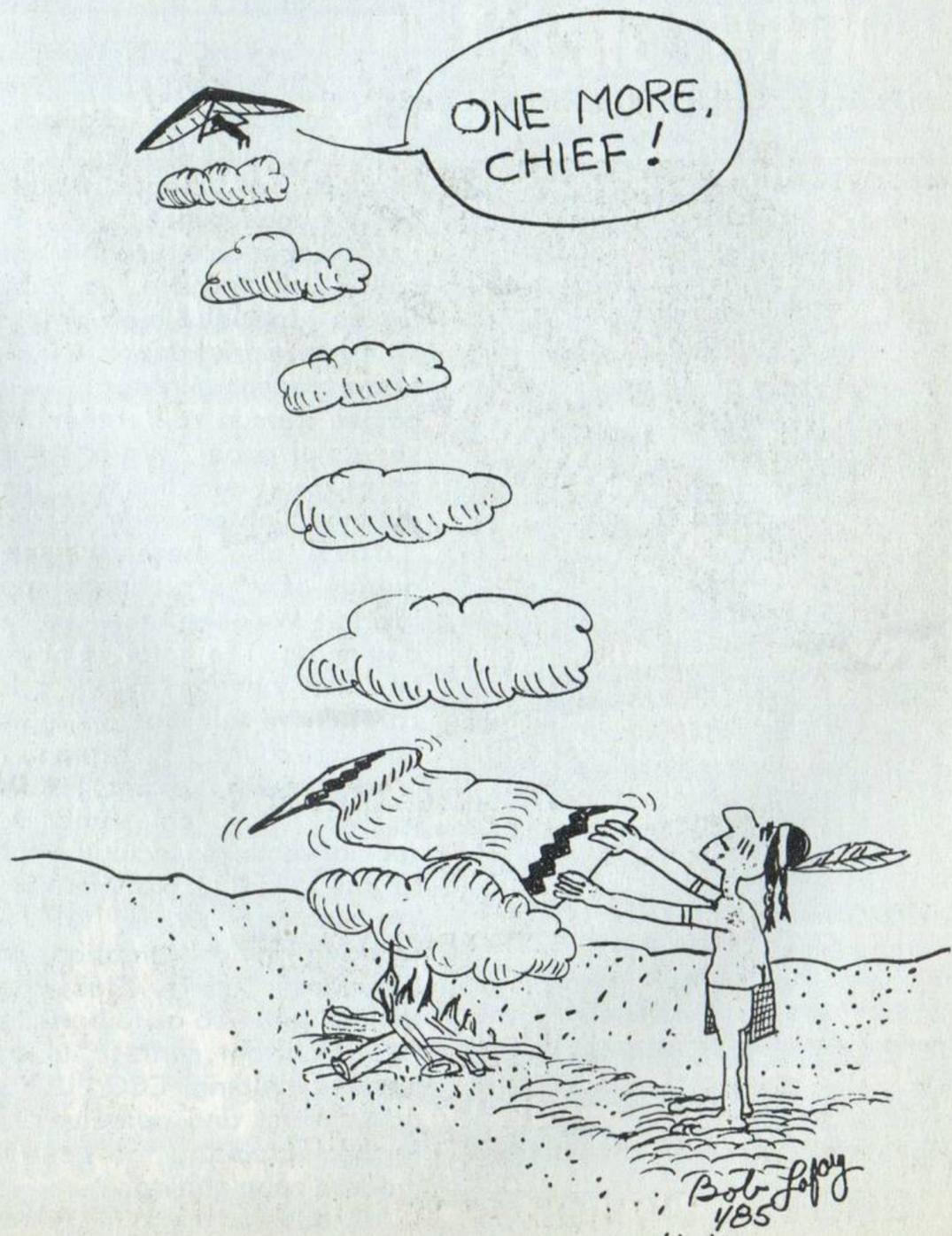
## FEATURES:

- 20 **TOWING 1985 SPECIAL**  
In a special 3-part, 10-page section, read Skyting Inventor Donnell Hewett's evaluation of "Shoulder Towing and French Connections." Then get some real-time experience from Florida towing sky god, Ray Foley, as he flies 54½ miles off boat tow. Finally, the section finishes with Doug Gordon's "Skyting Challenge," full of safety advice about proceeding on-tow.
- 34 **MITCHELL WING LEGACY**  
Part two of Chuck Rhodes' epic coverage of the designs of Don

Mitchell this time delves into the various models of the foot-launched rigid superwing.

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## PILOT REPORTS:

- 28 **AIRWAVE MAGIC III**  
Competition successes and adept international marketing made this speedster work for American pilots.
- 34 **ROLAND'S CONNECTION**  
Our cover story is a report on the High Speed Neutral Trim Device for aero towing.

## PILOT'S PERSPECTIVE:

- 20 **AERO TOWING STANDARDS**  
Newly re-written by USHGA's Safety and Training Committee, the standards to fit the FAA's exemption are clearer and more effective.
- 25 **ABOUT CHELAN**  
Cross country pilot Lee Fisher tells you some useful information about the site of the 1985 Nationals.
- 36 **TOWING IN THE U.K.**  
Our funny bone expert, Noel Whittall, brings you up to speed on towing in Britain.

- 32 **THE HANG PLANE**  
A Horten wing comes to life in 1985, thanks to designer Henry Cherry from Georgia.
- 38 **TOURING LA MOUETTE**  
Our long-awaited report of the factory which may be the home of the World's Largest Hang Glider Manufacturer.

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- 22 **THE ULF-1**  
Jim Maupin introduced Chuck Rhodes to this exciting craft, and Rhodes tells you all about the foot-launchable ultralight sailplane from Germany.
- 26 **FLYING IN RUSSIA**  
Compliments of *Soviet Life* magazine, we now know a little more about hang gliding in the USSR.

## IN FUTURE ISSUES:

- Ball & Afro Flight Decks
- Hang Gliding in India
- The Nimbus Sailplane
- Interview with Bob Trampenau
- The Magazines of Europe
- Aerobatic Interviews

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A TEXAS "SADDLE SOAR"



Cartoon by Bob Lafay

## PILOT'S PERSPECTIVE:

- 16 **RADIOS FOR HANG GLIDING**  
Ham operator Chuck Jones details some useful information on radios for use in hang glider X-C flying.
- 34 **NEW EAST COAST RECORD**  
Chattanooga pilot Gary Engelhardt is back with his second eastern record flight report in only eleven months. Plus, he offers some advice to newer pilots.

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## PILOT REPORT:

- 20 **THE MONARCH**  
Here's another (almost) 20:1 ultralight sailplane, but one that's already flying. Designer Jim Marske gives you flight information and spec's on his tailless craft.

## FEATURES:

- 22 **SPECIAL SECTION: HANG GLIDING IN EUROPE**  
This special 12-page section delves into three areas of ultralight soaring in the Old Country. First, German Correspondent Gib Eggen, D.O. breaks down Alpine weather systems in detail. Then read where Europeans get their news as Editor Dan Johnson covers the nine magazines from Germany, France, England, Switzerland, and Italy. And last but not least, read Alasdair Duguid's flying report of the Hurst Safari Tour of some outstanding Swiss Alps (reprinted from Britain's *Wings!*).

- 37 **FIFTH ANNUAL STEEPLECHASE**  
A little humor and a few facts take you racing down the dunes of Marina, as writer Jack McCornack saw it.

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Cartoon by Bob Lafay



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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.

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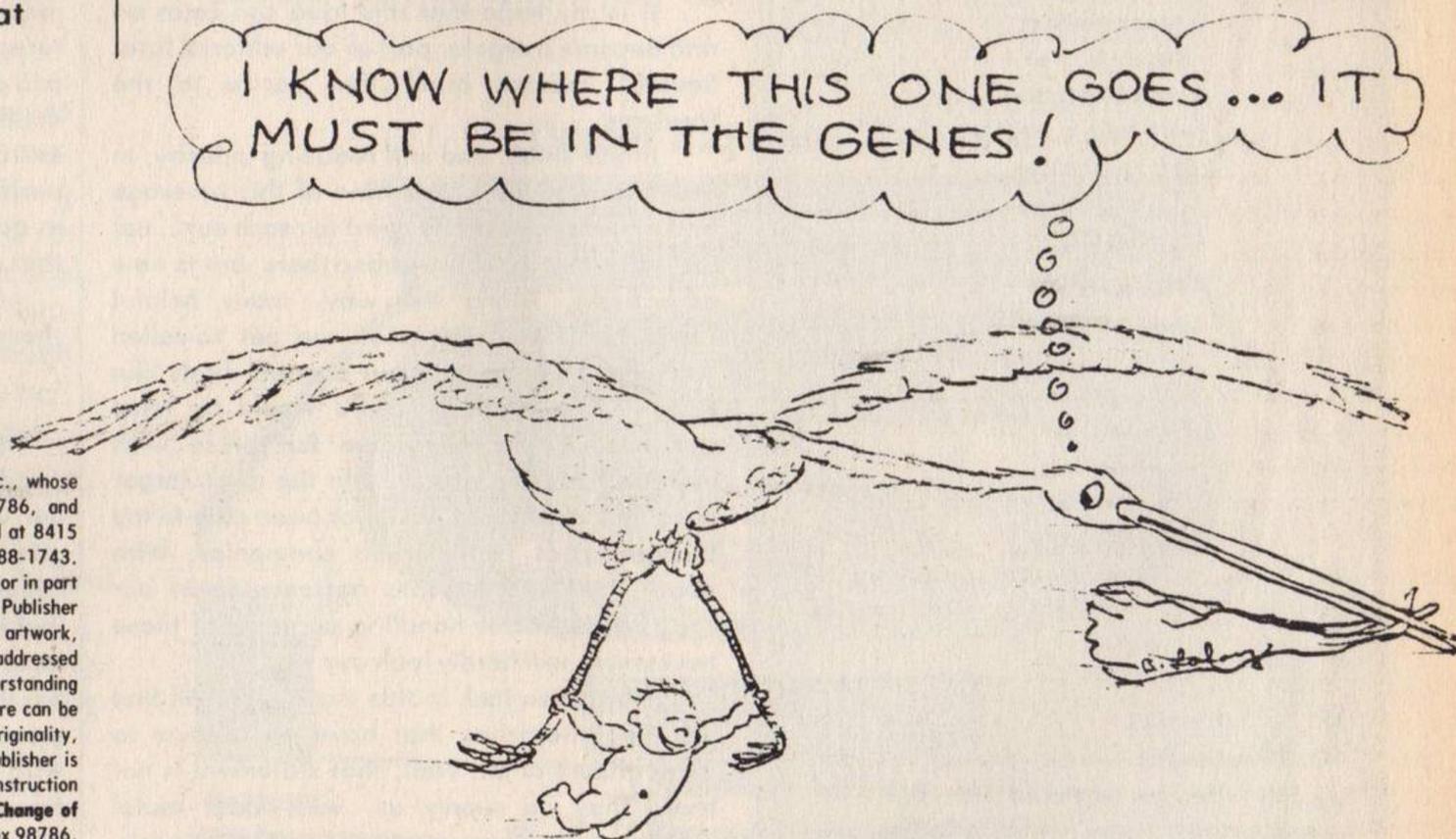
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### 1985 U.S. NATIONALS

- 20 **WHERE'S THE MEET?**  
Problems and solutions of attracting the public to celebrate our National contest with us.
- 21 **TABLE OF RESULTS**  
Who won, both for Sporting and World/Overall Class.
- 22 **MIDDLE OF THE PACK**  
Mike Daily, flying in his first Nationals, tells us how he feels about the trial against the country's best pilots.
- 23 **FOUR ON THE FLOOR**  
Parachute deployments came in a batch of four before and during the Nationals at Chelan, but no one was hurt. Amen!
- 24 **HO HUM, ONE HUNDRED**  
Almost nonchalantly, but for the first time in the U.S. Nationals, a one hundred mile task was called.
- 24 **CHRIS BULGER'S FINAL GLIDE**  
One of the country's most successful competition pilots lost his life while aero towing World Champion John Pendry. What can we learn?
- 26 **THE DUST SETTLES**  
Results and impact from the finish of the 1985 Nationals. We congratulate Rick Rawlings and Gerry Uchtyl.

- 26 **A CLASSY AFFAIR**  
A little humor came from this year's Nationals, thanks to Matt Wagner and Doug Lawton, who created the new "Leisure Class."

### WORLD MEET '85

- 33 We begin a complete coverage package of the bi-ennial World Meet from Kossen, Austria, to augment our brief report in last issue. German Correspondent, Gib Eggen, D.O., gives us the base story line, and offers his opinion about the contest which was both exhilarating and full of sharp disappointment. Then, Rob Kells tells us his ideas about how the USA can win the Gold, perhaps in the 1987 rendition. Also, you can read thoughts by Rick Pfeiffer, John Pendry (World Champion), Steve Moyes (last World Champion), Team Leader Brian Milton... and more.

### PILOT'S PERSPECTIVE:

- 16 **FLYING IN COSTA RICA**  
Thanks to a Central American Correspondent, we know a bit more about the "new" sport of hang gliding in this interesting little country.
- 18 **GREAT GLIDER GIVEAWAY**  
The Tennessee Tree Toppers gave away a grand prize worth \$3,500. Did you win? TTT Board Member and Raffle Chairman, Cliff Whitney, tells us the story.

- 28 **SEEDWINGS' BOB TRAMPENAU**  
Here's the story on one of hang gliding's most renowned designers, builder of the Sensor 510 and originator of many new ideas. Researched and written by professional journalist, Dave Higdon.
- 31 **SURVEYING OUR READERS**  
Whole Air's popular reader survey returns. It's still FREE, and we want you to participate.

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Flying in Korea  
Tandem Aero Towing  
Masters Grandfather Mtn.  
Ball and Afro Flight Decks  
Flying in Japan  
...and more...

**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 Lafay



## PILOT'S PERSPECTIVE:

### 18 OPINION

Jules Gilpatrick gives us his version of "A Modest Proposal (1985)," submitting that commercial interests in our sport should appeal to kids, not remind existing pilots of problems in the sport.

### 38 LAST BRITISH LEAGUE

Our British Correspondent, Noel Whittall, returns with a brief review of a spectacular finish to the 1985 British League.

### 39 HEDO LIFT YOUR DIVER

A company in California makes a simple, low-cost package that can ease the back strain lifting modern gliders to overhead garage racks.

## FEATURES:

### 20 HANG GLIDING IN KOREA

The first of two parts by Michael McCarley gives you some background on Korea as a hang gliding country. Korea will be the site of the 1988 Olympics.

### 22 KOREAN SITES, PEOPLE, MEETS

Part II of McCarley's thorough review tells you the where, who, when, and why of hang gliding in the Land of the Morning Calm.

### 26 BALL & AFRO FLIGHT DECKS

We review the two leading full-instrument flight decks for you, with a word about total energy compensation.

## SPECIAL TOWING UPDATE

### 29 AEROTOWING THE RISER

An Ohio group took the Cosmos Aerotug for flex wings and made it work for the venerable Easy Riser, opening the door for aerotowing of rigid wings.

### 30 PILOT REPORTS ON AEROTOW

Karl Allmendinger authors the overview of a multi-part new section on aerotowing, which offers towing pilot reports on several popular brands.

### 31 TEXAS TRUCK TOWING

They do it their way in Texas, and Jerry Forburger tells us how that is. Read the report before you make up your mind on this radical looking, but efficient method of tow launches.

### 33 MINI AEROTOW CLINIC

For those who were not able to attend any of Skylines' aerotow clinics, Allmendinger explains how it feels to learn aerotow techniques.

### 34 TANDEM AEROTOWS

Learning the basic hang gliding skills takes on a whole new perspective when you fly tandem, and are aerotowed aloft.

### 35 FIRST IMPRESSIONS

Confessions of an ex-fighter jet jockey tell you what one experienced aviator felt when he sampled hang gliding via a tandem aerotow.

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Flying in Japan

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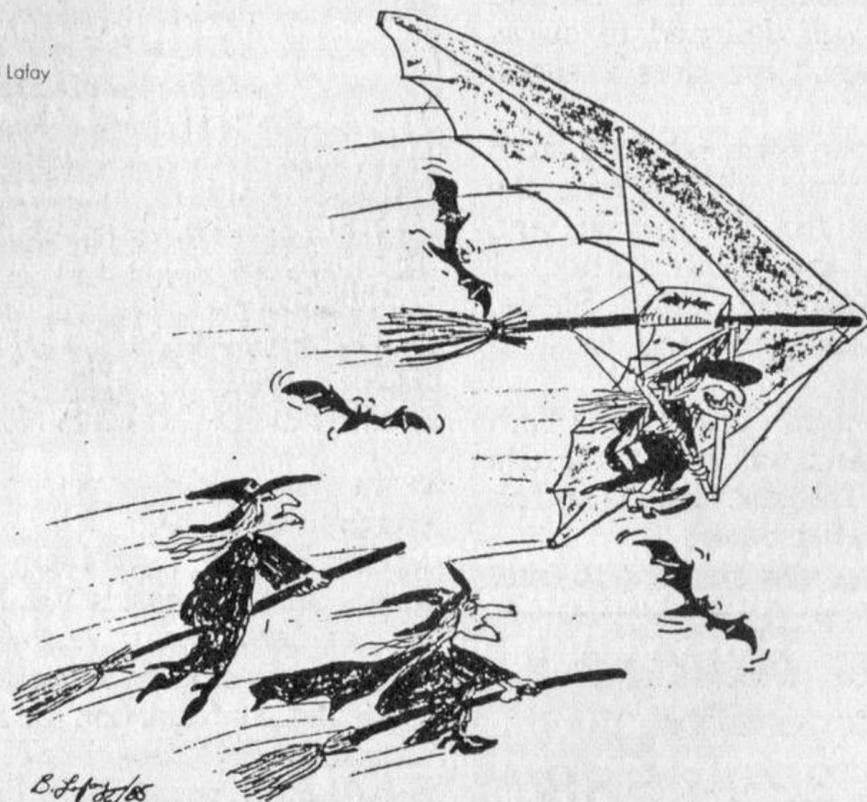
About Judy Leden

Pirep on the Polaris GZ

Flying Haleakala Crater

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Cartoon by Bob Lalay



# WHOLE AIR

ISSUE NO. 47, VOLUME NO. 9, NO. 1

The Magazine of the Hang Gliding World

## PROGRAM SECTION

- 18 **THE STEEPLECHASE**  
Now in its sixth year, the sand dune race at Marina Beach has become the first important competition event of the year. John LaTorre starts off our Special Program Section with a thorough update.
- 21 **DIVERSIONS**  
Everyone needs a change of pace at a hang gliding event, pilots and families alike. LaTorre provides a number of options in Monterey and surrounding areas.
- 22 **RACE SPECIFICATIONS**  
Dates, divisions, prizes, fees, entertainment, sponsors.
- 23 **SCHEDULE OF EVENTS**  
The complete schedule on a daily basis is provided in the centerspread of this issue.
- 24 **SITE GUIDE**  
LaTorre reviews four Greater Bay Area sites for visiting pilots which offer a diversity of challenge and conditions. You'll want to hang on to this.

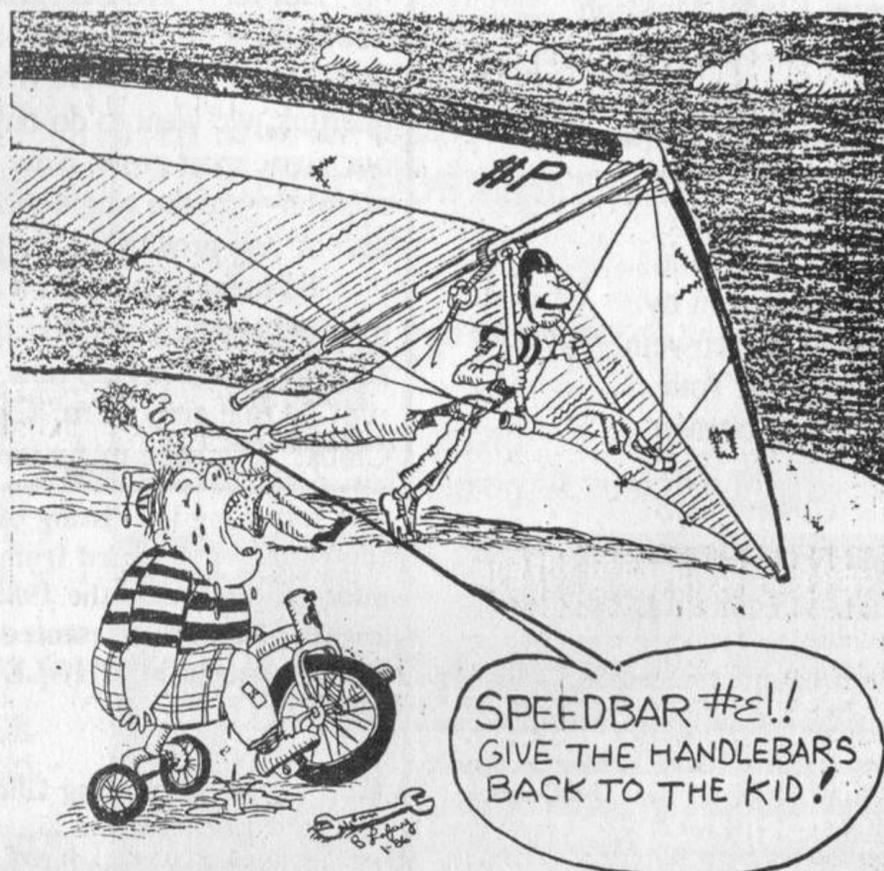
## FEATURES

- 26 **TESTING THE BULLET**  
Chuck Toth of Crystal Air Sport Motel fame tested Delta Wing's imported spring-ejected parachute recovery system using the Hang Glider Simulator.
- 32 **INDUSTRIAL THERMALS**  
World record holder, and task official Jo Bathmann relates an exciting flight with Maximilian the [attack] Eagle.
- 34 **TOURING AIRWAVE GLIDERS**  
Gib Eggen visited England's largest glider manufacturer in late 1985, and tells the story which led to the Magic series of hang gliders.
- 35 **INTERVIEW NOTES**  
Eggen recounts the Airwave directors' "wish lists," and adds further profile to Deegan, the genius behind the Magic's sailing.
- 36 **BRITAIN'S JUDY LEDEN**  
Official world record holder Judy Leden gave up a lot to enter hang gliding competition, and achieved more than most pilots—male or female.

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Cartoon by Bob Lafay

# WHOLE AIR

The Magazine of the Hang Gliding World  
Das Magazin der Drachenflugwelt

ISSUE NO. 48, VOLUME NO. 9, NO. 2

## FEATURES:

- 20 1st ANNUAL CLUB LISTING  
In **WHOLE AIR**'s first annual list of clubs and schools of the USA and Canada, we provide locations, phone numbers, and much information for 54 clubs and 34 schools.
- 22 CLUB / SCHOOL MAP  
Our center spread shows a map of North America quite well filled with many fine clubs and schools.
- 32 CERTIFICATION IN THE U.S.A. AND GERMANY  
Professor Schönherr of Germany's DHV testing agency and the HGMA's Mike Meier compare notes and discuss differences in the two systems of hang glider certification.
- 32 Schönherr's response to Meier's article which appeared in the June 1985 issue of *Hang Gliding*.
- 36 Meier replies to Schönherr.

(Both accounts presented in English and German text for our new German readership.)

## PILOT REPORT:

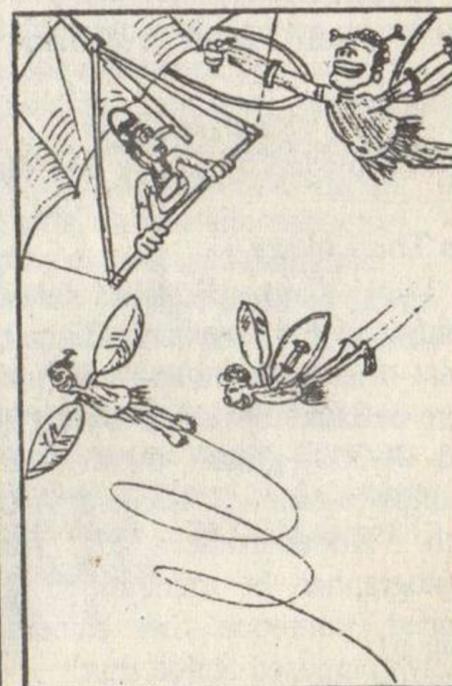
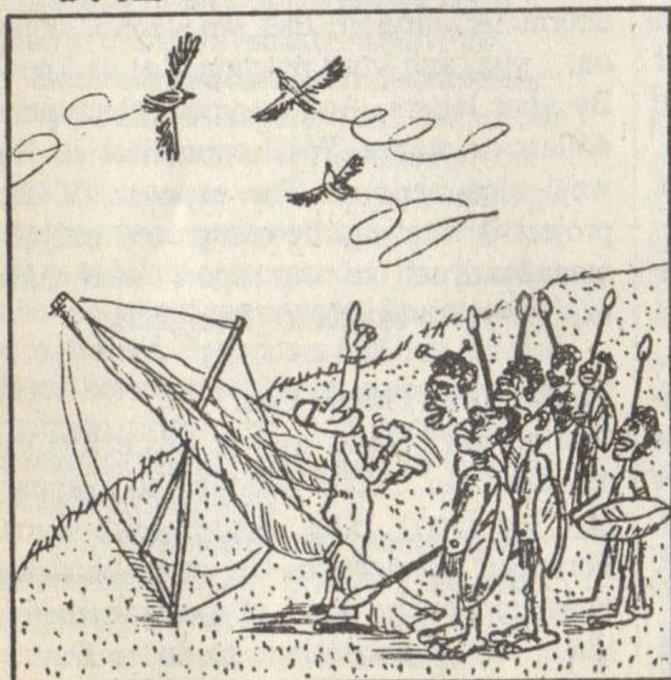
- 26 POLARIS GZ  
We fly the high performance entry from the largest Italian manufacturer, and offer the first report of any hang glider from Italy.
- 28 DOI MALINGRI SPEAKS  
Malingri is the director of Polaris, and writes outspokenly and with humor about the development of the Polaris GZ.
- 30 THE EMPEROR'S CLOTHING  
In basic agreement with our feelings on the GZ for recreational pilots, Pete Osborne gives his opinion about evaluations of gliders reviewed over the last few years.

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- 16 REGIONAL NEWS
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## ONE DAY IN AFRICA



# WHOLE AIR

The Magazine of the Hang Gliding World

ISSUE NO. 49, VOLUME NO. 9, NO. 3

## FEATURES:

**16 PILOT REPORT—SAPHIR 17**  
We fly the bowsprit Saphir from Bautek and discover the superior handling we heard about, but... The flying took place under power from the "Minimum." Before you jump to conclusions, read this one. It's a smoothly achieved, high performing wing.

## SPECIAL INSTRUMENT SECTION

**34 TOTAL ENERGY VARIOS**  
Dennis Pagen discusses this feature of the high-end variometers. He tells you what it's all about and whether the function is a "must have" for you. Or not.

**35 SPEED TO FLY**  
Afro instrument distributor Achim Hageman brings you up to speed on MacCready Rings; what they can do for your flying, and how to optimize their use.

**37 THERMAL SNOOPER**  
Since hang glider pilots "discovered" thermal lift, pilots have spoken wistfully about a device to better help locate sources of the convective lift. Now father and son Fisher tell you about the Delta-Therm device they developed. Is it the answer?

**39 SPEED POLAR**  
Pagen refers to the need to devise a polar just for you and your glider. With help from the West German Bautek company, we show you what a speed polar looks like.

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## 1986 U.S. NATIONALS PROGRAM

**22 PILOTS TO WATCH**  
This year's crop of top ranked pilots feature the names you might expect... and some surprises. Attendees, participants, spectators, and enthusiasts will all want to know who to observe. Here's who's who.

**24 THE 1986 EVENT**  
Organizer C.J. Sturtevant provides a backdrop of Nationals competitions, and then previews the second edition at popular Chelan, Washington. Is it the ultimate test? Will it prepare "our boys" for the '87 World Meet in Australia?

**26 S\*I\*T\*E\*S OF WASHINGTON**  
Our choices from the Cloudbase Country Club guide to sites in Washington State highlights the biggest and best in this state of diversity. Pick an Owens Valley desert site, or fly the tall, green mountains of western Washington. You'll want to keep this issue just for this section.

**28 FUN DIVERSIONS**  
If you fly, but need to cool off from the thermally desert... or if you need to pass the time till your pilot returns from the competition, Chelan has lots to offer. We present our sampler, learned at last year's event.

## AERO TOPICS

**4 PUBLISHER'S COLUMN**  
Presenting the Welcome from the Mayor of Chelan, plus late-arriving Clubs & Schools.

**8 SPECIAL NEWS**

**8 INDUSTRY NEWS**

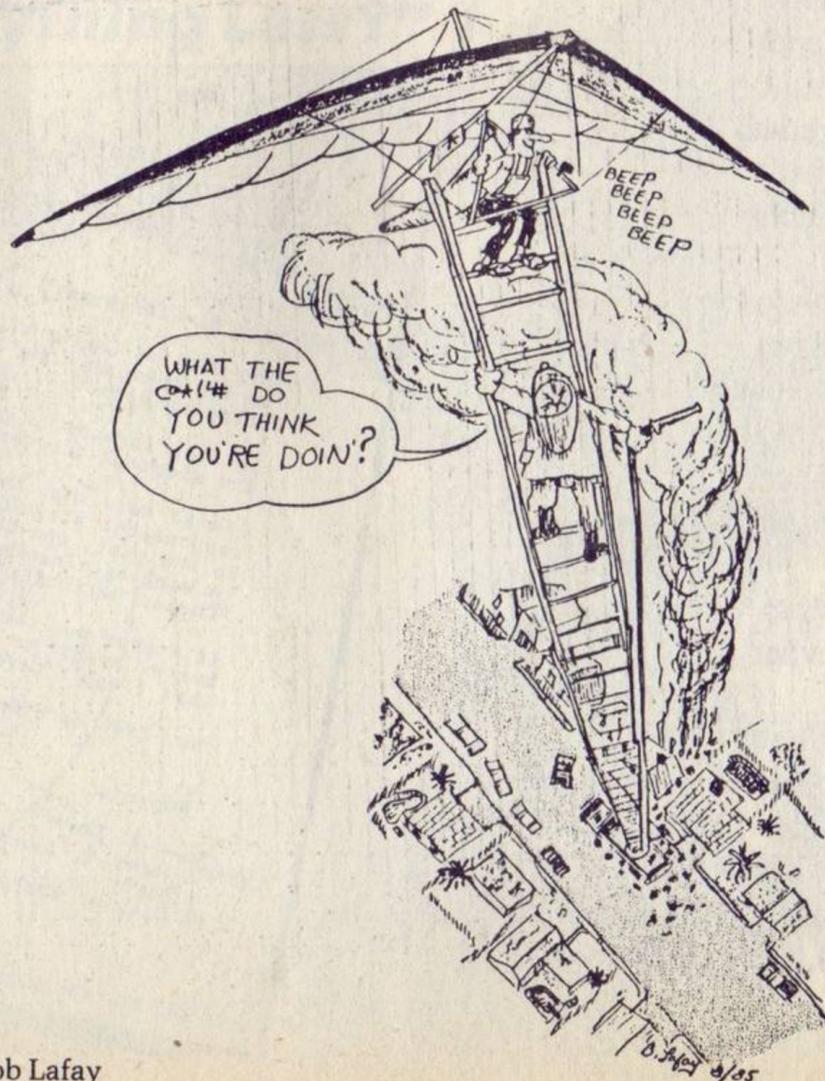
**10 CONTEST NEWS**

**12 PHILATELIC NEWS**

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For Bargain Hunters and More

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Cartoon by Bob Lafay

# WHOLE AIR

ISSUE NO. 50, VOLUME NO. 4, YEAR NO. 9

The Magazine of the Hang Gliding World

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- 32 PILOT REPORT—Wills Wing Sport  
We fly the latest offering from Wills, and provide you with perspective by Paul Voight (who managed to win his regional qualifier on a stock model).
- 37 SECOND OPINION  
Bay Area pilot Karl Allmendinger flew one the first Sports brought to San Francisco, and offers his thoughts.
- 38 BOX SCORES & SPECS  
Paul Voight sizes up the Sport and we present his 10-scale grading of the glider. The evaluation is made unique by comparative scores from the same pilot as he recalls feelings from several other gliders he's flown.

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## 1986 GROUSE MOUNTAIN PROGRAM

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

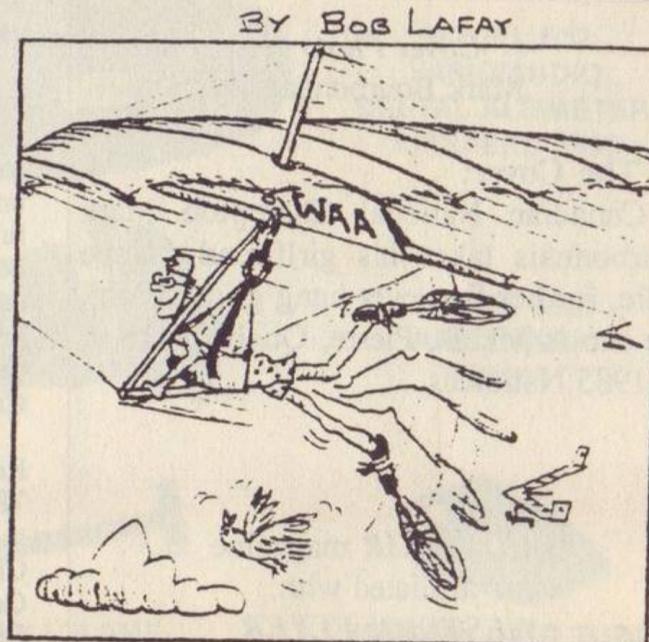
## FIFTH AMERICAN CUP PROGRAM

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

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### ONE HOT DAY



Cartoon by Bob Lafay

# WHOLE AIR

ISSUE NO. 51, VOLUME NO. 5, YEAR NO. 9  
—Special Collector's Edition—  
August 1986

The Magazine of the Hang Gliding World

## FEATURES:

### 12 CHELAN NATIONALS-CHAPTER 2

In true contest form, meet organizer CJ Sturtevant provides a day-by-day description of another successful Nationals in Lake Chelan. Humor, pilots and gliders, cute phrases, triangle tasks, actual accounts, results... it's all here. Photos provided by pro-photographer, Howard Handy.

### 18 DOWNUNDER NEW ZEALAND

He's Back! Roving reporter Gib Eggen—our former German correspondent—returns with an overview of that "other" downunder

country. Accented by quality photos from New Zealand's own Graeme Henderson, Eggen tells about the sites, the people, the weather, and more. New Zealand's proximity to Australia makes it a second stop for those headed to the World Meet in Australia. Sidebar by *Airborne* editor, Bill Degen.

### 22 SITE GUIDE TO THE ALPS

In his typically entertaining style, our longtime correspondent Noel Whittall and son Robert take us on a desirable tour of the gorgeous Alps of Austria and Bavaria (southern Germany). You'll want to keep this as a directory of the right places for your own European trip.

### 26 UP IN THE U.K.

British Hang Gliding Association chairman Noel Whittall reviews the state-of-the-art of towing in jolly old England, where advances have perhaps gone beyond those in America. Read about variations on the equipment used.

### 28 AUSTRALIAN PREVIEW

Much more than the host country for the sixth running of the prestigious

World Meet in late 1987, Australia is home of some of the world's finest pilots, of early innovator Bill Moyes, and of advances in tow-launched cross country flying. It's a whole different world "downunder." Account and photos by Denis Cummings, with help from his son, Iain.

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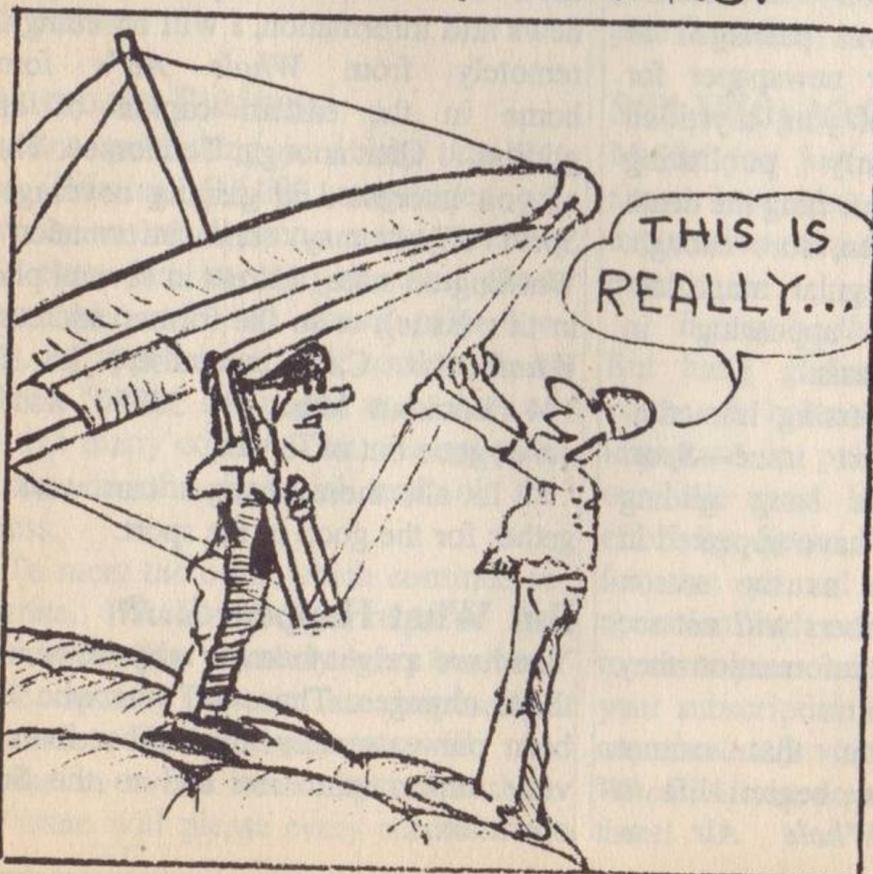
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## ONE DAY WITH THE KONG.



Cartoon by Bob Lafay