

# GLASER-DIRKS DG-400M/17



DG-400's now hold or claim all the following FAI World Records:

Motorglider  $\Delta$  Speed

100km FAI Speed Triangle 300km FAI Speed Triangle 102.78mph! 500km FAI Speed Triangle 750km FAI Speed Triangle 100.78mph! 1000km FAI Speed Triangle 86.91mph!

Sailplane  $\Delta$  Speed

300km FAI Speed Triangle 109.91mph!

Motorglider Altitude Gain

FAI Altitude Gain 32,575 ft.!

Distributor for the U.S.A.: OLIVER DYER-BENNET

GDW

5847 Sharpe Road Calistoga, CA 94515 (707) 942-5727 Telex 750640 DG USA UD

Telex 730040 DG USA U

308 Chase Lane Marietta, GA 30067 (404) 973-1414



# SOARING MOTORGLIDING



## The JOURNAL of the SOARING SOCIETY of AMERICA

# Volume 50•Number 11•NOVEMBER 1986

- 16 FOUR ON THE FLOOR
  Karl Striedieck, Robbie Robertson,
  John Seymour and Roy McMaster
- 26 FLIGHT TESTING THE RP-2 Francis P. Bundy
- 30 THE 1986 BARRON HILTON SOARING CAMP Doug Jacobs
- 2 SOARING MAIL
- 9 SSA IN ACTION
- 24 F.A.I. BADGES, U.S., Arleen Coleson
- 48 CALENDAR OF EVENTS
- 51 CLASSIFIED ADVERTISING



Just a little old gliderport in the desert, except this happens to be a rather special one in the "back yard" of a rather special ranch. For a report on a soaring vacation that could just be yours some day, see page 30.

The Soaring Society of America is a nonprofit organization of enthusiasts who seek to foster and promote all phases of gliding and soaring on a national and international basis. The Society is also a division of the National Aeronautic Association (the U.S. national aero club) which represents the U.S. in the Federation Aeronautique Internationale (FAI, the world sport aviation governing body comprised of national aero clubs). NAA has delegated to the SSA the supervision of FAIrelated soaring activities such as record attempts, competition sanctions, issuance of FAI Badges, and the selection of a U.S. team for the biennial World Gliding Championships. SOARING is the Society's official journal.

Division: The 1-26 Association, R.R.4 Box 597, Blairstown, NJ 07825

Division: The Vintage Sailplane Association, Scott Airpark, Lovettsville, VA 22080

Division: The SSA Sailplane Homebuilders Association, 3425 John Street, San Diego, CA 92106

Affiliate: The National Soaring Museum, Harris Hill, RD #3, Elmira, New York 14903

Affiliate: The National Soaring Foundation, P.O. Box 831, Hobbs, NM 88241

SSA Officers: President, Hal M. Lattimore Vice-President, Richard N. Hall, Jr. Vice-President, William C. Sproull Secretary, Richard Schreder Treasurer, T.E. Sharp Executive Director, Larry Sanderson

Soaring Staff: Editor, James Algar Advertising, Judith Purcell

Offices: SSA business office and *Soaring* magazine business and editorial office: P.O. Box E, Hobbs, NM 88241. Phone (505) 392-1177.

Cover: The AS-W 20's of John Seymour and Roy McMaster over Karl Striedieck's ridge roost in Pennsylvania. They've spent a lot of time there; to see how it paid off, see page 16 of this issue. Photo by Eric Greenwell.

Total paid circulation of the October issue was was 17,985

Copyright ®1986 Soaring Society of America. All rights reserved.

"Soaring Mail" may include letters from members who are advocating or opposing changes in SSA poli-cy or operations. In this respect, SOARING strives to serve as an open forum and publish as representative a sampling of all views as space permits.

But publication of a letter can only give an idea exposure, not implementation. Society bylaws delegate policy and decision-making to the SSA Board of Directors (The SSA Regional Directors) and, between meetings, its Executive Committee.

Correspondents who want action should contact their SSA Regional Director or the Executive Committee (Names and addresses of Regional Directors are in the SSA Membership Roster, and the names of the three Executive Committee members are given at the close of the Executive Director's Report which is published in SOARING following each Director's

Material published in SOARING magazine is contributed by individuals for the reading pleasure of soaring enthusiasts. Monetary payment is made only for the front cover photograph (\$50). Anyone is invited to contribute articles, reports and photos concerning soaring activities. However, any material that is to be returned must be accompanied by a stamped self-addressed return envelope. Manuscripts accepted for publication are subject to whatever deletions, additions or revisions are necessary to adapt the material to the space requirements and quality standards of the magazine.

Advertising is published as a service to readers. The publisher reserves the unequivocal right to accept, reject, discontinue or edit advertising, the submission of which shall be evidence of agreement to that right by any prospective advertiser. SSA and its journal have neither the facilities, staff, nor legal authority to investigate advertising claims, but read-ers are requested to notify SOARING if misrepre-

sentation occurs.

The Society and its journal assume no responsibility for the opinions expressed and facts stated in articles and advertising published in SOARING magazine, which are the sole responsibility of the contributor, author or advertiser. Publication is not an endorsement, qualification, approval or guarantee of either the advertiser or the product or service advertised, nor that the product has actually met any advertising policy criteria. The reader should independently evaluate the accuracy of any statements in this publication and rely upon such evaluation.

Cover and entire contents of SOARING are fully protected by copyright 1986 Soaring Society of America. Permission for reproduction in any manner whatsoever must be secured in writing from The Soaring Society of America.

SOARING magazine, publication number USPS 499-920, is the journal of the Soaring Society of America, Inc., editorial and business office P.O. Box E, Hobbs, NM 88241. Telephone (505) 392-1177. SOARING is published monthly. Secondclass postage paid at Hobbs, New Mexico and at additional mailing offices. Subscription to individuals in the United States available only as part of SSA membership.

Membership in SSA is open to anyone interested in the art, the science or the sport of motorless flight.

Membership categories are:	0
FULL MEMBER	\$ 35
FAMILY MEMBER	17
STUDENT MEMBER	22
ASSOCIATE MEMBER	25
LIFE MEMBER	450
BUSINESS MEMBER	100

SOARING subscription price, \$20 in U.S., \$25 for-eign (pay in U.S. funds from U.S.A. banks only). Subscriptions to individuals are only available to anyone outside the U.S. and the price includes post-age. In the U.S. only libraries and institutions may subscribe.

SOARING magazine mailing schedule: The journal is delivered from the printer the third Friday of each month. The following Monday it is sent to an outside nualler for addressing. Considerable variations in delivery time have been reported, but the average appears to be two weeks. U.S. members desiring for additional \$15 per additional siring faster delivery may pay an additional \$15 per year to have their copy delivered by first class mail.

SOARING magazine is printed by American Web Offset, Denver, Colorado. (Postmaster please send change of address form 3579 to SSA, P.O. Box E, Hobbs, NM 88241.

# **SOARING**

# **Check Your Insurance!**

It has come to my attention that, although it is legal under FARs to rent out single-place use of experimentallylicensed ships, unless one's insurance policy specifically covers that occurrence, one's insurance could be void if that practice were followed. Further, it has been determined that some may be giving dual or sightseeing for hire in these type ships which is of course prohibited.

Rental, instruction and sightseeing for hire in an experimental glider is excluded from coverage in the SSA Insurance Policy. If an insurance company should approve coverage therefore, that could lead the FBO into direct violation of FARs. According to a recent letter I've received from Pat Costello, the Wyatt Plan Administrator, special approval from Oklahoma City FAA would be required to approve rental for hire of experimentally licensed ships.

FBOs may be jeopardizing their insurance, regardless of what company they insure with, setting themselves up for possible FAR violation and exposing themselves to financial risk without coverage, if they are not careful in the use of experimentally licenses ships as outlined above.

> BERNALD S. SMITH CHAIRMAN, INSURANCE COMMITTEE

# **Battery Charging Revisited**

To Les Sebald, "Maintenance and Projects":

It was indeed a pleasure to find my article within the pages of Soaring ("The Care and Feeding of 14-Volt Sailplane Batteries", July '86, pg. 44). Your comments are very much appreciated, however I must differ with one of your comments to a small degree.

The charging level of 2.35 volts per cell is the correct voltage level for constant voltage charging systems required to "float-charge" a battery. Since most glider batteries are deep cycled, they need a higher charging voltage for the first 8 to 12 hours. Gates Energy Products, Power Sonic and other manufacturers recommend a charging voltage of 2.45 volts per cell for the first 7 to 12 hours with a current-limited supply set at about 2

An ideal charger would supply the



above specifications until the battery was fully charged (terminal voltage at 2.45 volts per cell and current draw below 100 milliamperes for 5 to 8 ampere/hour cells) at which time it would automatically switch to the 2.35 volts per cell float level. The advantage of the higher initial voltage is not only a faster charge but a more complete charge when the batteries are used in the "cyclic" mode.

KEVIN COUSINEAU

# Front Wheel Drive

I have received word about another trailering accident that may have been caused by the tow car.

For various reasons, cars with front wheel drive to not make good tow vehicles. While some manufacturers place limits on trailer weights, most of them recommend against towing any trailers. I talked with an experienced engineer at Ford and he was quite strong in advising caution with front wheel drive tow vehicles.

ROBERT GAINES SAFETY CORNER

Marietta, Georgia

# Thanks, Friends

There are some really great people in Nevada. Last week concluded my vacation to the west which couldn't have been any better. The folks at High Country Soaring made my soaring vacation a most enjoyable experience. I had a couple of check rides with CFI Jim Dean, and then gained some experience of the local conditions with another of High Country's top pilots, J.C.

After the introduction to the area I was ready for some of the best soaring of my life. The following five days were a glider pilot's dream. The lift consistently would take the Grob 102 up at 1000 fpm which helped me attain a new personal altitude record of 14,500'. Also with the help of Tom Stowers I achieved Silver altitude and attempted distance and duration. Just thought some of Soaring's readers would like to know of a place with great people and fabulous soaring.

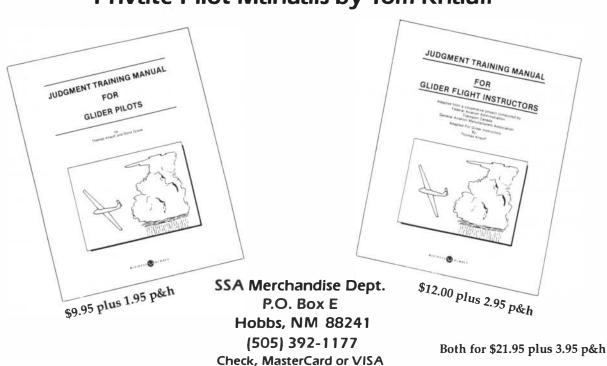
DAVE DRIESE

Orlando, Florida





Private Pilot Manuals by Tom Knauff



# SSA IN ACTION

# SSA REGIONAL DIRECTORS ELECTION

Here is a rundown on the candidates for SSA Regional Directors in the upcoming election. Approximately one-third of the seats on the Board of Directors are elected each calendar year. This year Regions 1, 2, 6, 9, 11, and 12 have seats up for election. Each of the incumbents has decided to run again, and none are contested. Each elected Director will serve through December 31, 1989.

The following information will be the only candidate biographical data published for this election. Unlike previous years, there will be no biographical information printed on the individual ballots. These changes are being made in an effort to streamline the election process and reduce the amount of paper previously enclosed in the ballot packet. Ballots will be mailed out second class on October 10th. They must be returned to the Soaring Society Headquarters postmarked NOT LATER THAN NOVEM-BER 24, 1986. Ballots received postmarked after that date will not be counted.

# Region 1 John Hansmann

John has been a Director since 1985 when he won a special election. He is

an active competition pilot has worked as a flight instructor and tow pilot at several soaring sites in Region 1. He holds a Gold Badge with two Diamonds. John is currently Boeing Assistant Professor of Aeronautics and Astronautics at MIT and conducts research in several soaring-related areas. He organized the Fourth International Symposium on the Science and Technology of Low-Speed and Motorless Flight held at Hartford in 1984.

# Region 2 Robert Fitch

Robert Fitch is the Past President of the New Jersey Soaring Council and Region 2 Soaring Council. A glider pilot since 1972, Fitch built and flew an RS-15 and an HP-18 from kits, and has been an H-301 Libelle owner since 1982. He has been flying in competition since his first year in soaring, and has served as Contest Manager and Competition Director for Regional contests. Holder of a Diamond Badge, One-Lennie Pin, and 1000-km Diploma, he claims all ten of the New Jersey State Soaring records.

# Region 6 Richard Schreder

Dick has been a Director for 28 years and is currently Secretary of the SSA. He was elected to continue serving in this capacity for 1987 at the Board of

Directors meeting at Hobbs in September. He is a Past President of the Sailplane Homebuilders Association and continues his homebuilding and designing activities as well as being active in competition. Dick has designed and built 21 aircraft and has been U.S. National Champion three times as well as flying in four World Championships.

# Region 9 Richard N. Hall

Dick has been a Director since 1980 and is currently Chairman of the Club/Chapter Liaison Committee. He is an active supporter of competitive soaring. At the recent SSA Board meeting in Hobbs, Dick was elected Trustee of the Soaring Society. He has also served as SSA Vice President for the past five year and in that capacity, also served on the Executive Committee. He is currently one of the driving forces behind the upcoming SSA Convention in Colorado Springs to be held in February 1987.

# Region 11 Bernald S. Smith

Bernald has been a Director since 1963. A past SSA President, Bernald is currently Chairman of the Insurance Committee and a member of the Board of Trustees of the newly created Soaring Safety Foundation. He was Cochairman of the SSA 1983 Convention in Reno and Deputy Director of the 1983 World Soaring Championships in Hobbs.

# Region 12 William S. Ivans

Bill has been a Director since 1952. He is a past President of the SSA and former Chairman of the Contest Board. He continues as President of the CIVV, the World Gliding Committee of the FAI. He has been awarded the FAI Lilienthal medal as well as the SSA's Eaton Trophy and has represented the U.S. in the Internationals in 1956.

Each of these candidates serves on a volunteer basis. As Representatives of their SSA Regions, they are your voice on the Board. As concerned pilots in their own right, they have demonstrated a commitment to soaring seldom equalled on other Boards. Each of the candidates above actively participated in the successful decision to move the Headquarters of the SSA to Hobbs, New Mexico. They continue to do a job of which we can all be proud. Show your pride in their commitment to representing you and to your sport. VOTE! Just because they are uncontested doesn't mean they don't need your vote!

# SEQUATCHIE SOARING

# A LIMITED MEMBERSHIP PROPRIETARY CLUB

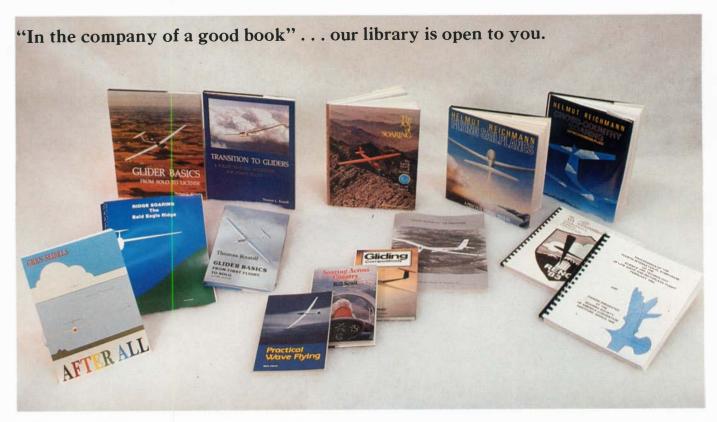
Very reasonable entry fees and annual dues allow you to take advantage of our expanding facilities and excellent ridge soaring. Let us know your individual and Club requirements. Badge Flying is our specialty. Please include a phone number with your membership inquiry.

Weekend, Club and Open Camps
Pawnee Towing Service
Hangers, Tie-Downs and Trailer Parking

Art Matthews Rt. 1, Box 580 Whitwell, TN 37397







From Our Library: After All Ridge Soaring Bald Eagle Glider Basics, to Solo Glider Basics, to License Transition to Gliders Joy of Soaring Practical Wave Flying	\$14.95 \$16.95 \$20.00 \$22.00 \$14.00
Practical Wave Flying Soaring Across Country	\$13.00

Soaring Meteorology . . . . . . \$8.00 Proceedings, 83 & 84 . . . . . . \$17.00

Pilot Survival Kit: Large tube tent, waterproof matches, high pitch whistle, signal mirror, flares, first aid, candle, nylon cording, safety pin, razor blade, foil, duct tape, sugar cubes, boullion cubes, tea bags, energy bars, etc. \$14.00

Quencheroos: A soft, unbreakable collapsible thermos that holds one quart of hot or cold beverage. Attaches to chute strap so you can drink from short push-lock tube. Insulated nylon outer bag holds the inner container. \$21.85

**License Plate Frames:** "Experience the Magic—Try Soaring!" Single, \$2.25.



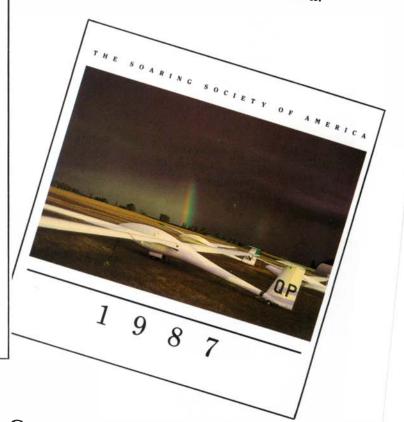


1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

The 1987 Calendar is a worthy successor to our 1985 and 1986 sellout versions. Lightly ruled date boxes leave room for appointments and show national contests and events.

# 1987 Soaring Calendar

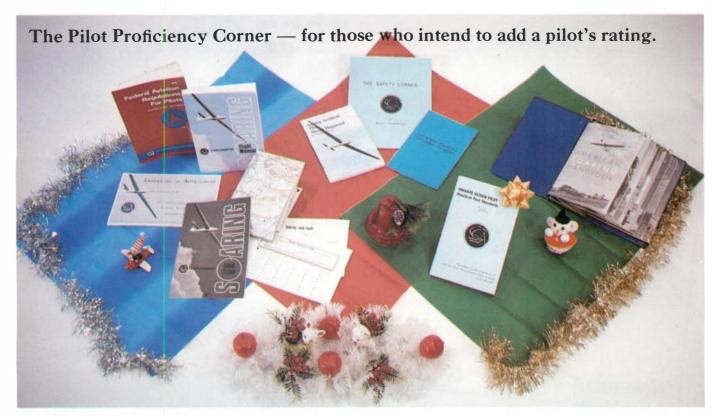
Get ready for the New Year with our quality  $12'' \times 12''$  pictorial. Our showcase of soaring photos from around the world.



Great gift item. Order direct or pick up from your local Business member. VISA, MasterCard or American Express telephone orders welcome.

The 1987 Calendar, only \$8.95. In the U.S., add \$2.50 postage; international \$3.50.\* \*per calendar

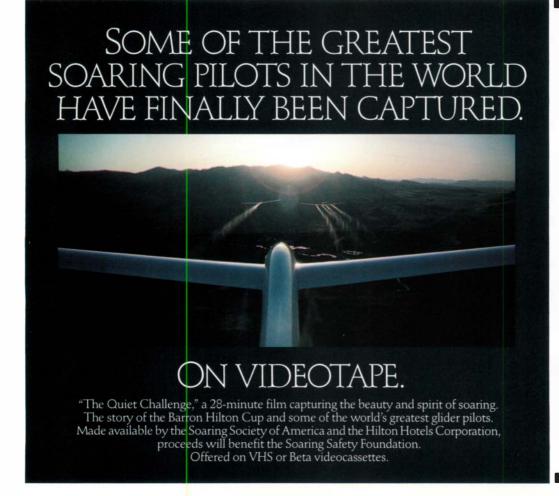
From the SSA, P.O. Box E, Hobbs, NM 88240 (505) 392-1177



SSA Ground School: Third Printing-new lower price. Manual for home-study for Private or Commercial ratings. With current FAR's, \$33.25. Without FAR's, \$26.00

Safety Pack: Learn from other's mistakes. Soaring Accidents That Almost Happened, Du Pont; Sub-Gravity Sensations, Piggot; The Safety Corner, Coverdale. All three, \$10.95.

American Soaring Handbook: Ten Chapters with in-depth reference on every aspect of soaring. Available by Chapter or whole set. Binder Available. Set plus binder, \$27.75.



Order Form

# THE QUIET CHALLENGE

Directed, Photographed & Written by CHRISTOPHER WOODS

Narrated by JOHN DENVER

\_\_\_ COPIES OF PLEASE SEND "THE QUIET CHALLENGE" AT \$59.95 EACH.

VHS FORMAT

□ NTSC (U.S.) □ PAL (Europe)

BETA FORMAT

| NTSC (U.S.) | PAL (Europe)

NAME\_\_\_

ADDRESS \_\_\_\_

STATE \_\_\_\_\_ZIP \_\_\_\_

COUNTRY \_\_\_

☐ CHECK ENCLOSED \$ \_\_\_\_\_

☐ PLEASE CHARGE MY CREDIT CARD:

MasterCard No. \_\_\_\_\_Exp. \_\_

SSA P.O. Box E Hobbs, NM 88241

(Allow 2-3 weeks for delivery, orders from outside the U.S. may take longer.)

# SSA IN ACTION

# BOARD OF DIRECTORS MEETING

On September 13th, the SSA Board of Directors held their semi-annual meeting in Hobbs, New Mexico. Although many Directors had visited Hobbs before, this was the first full Board meeting to be held in New Mexico after the SSA Offices moved last Spring.

Friday, September 11th was a day filled with special committee meetings. The Budget and Finance Committee met to review the proposed annual budget for FY87. The SSA Trustees met to review investment policies and status of SSA Trust Funds. And the Soaring Safety Foundation held a meeting that was attended by William Fromme, Director of the Office of Aviation Safety at the FAA. That evening the Hobbs Chamber of Commerce and Industrial Development Committee hosted the Directors for dinner.

The Saturday Board Meeting covered a lot of ground. After a review of the Treasurer's reports, SSA Board Member Richard Hall was elected by the Board to serve as a Trustee. Hall filled a vacancy created when Trustee Bill Cleary resigned for personal reasons.

The construction of the new SSA building in Hobbs is scheduled for completion in March 1987.

During his presentation of the Development Board report, Sterling Starr noted that SSA Convention Committee Chairman Marion Barritt had resigned her position. SSA member and hotel executive Fredo Killing of Colorado Springs has been appointed in her place. Throughout the weekend, Starr and others kept returning to discussions of how the SSA can expand its efforts to bring new members into the organization and publicize the sport. As a result of these discussions, the Board voted to reorganize the next Board Meeting (Colorado Springs, February 1987) to allow for substantial planning efforts in the expansion of the sport and SSA.

SSA President Hal Lattimore appointed a Special Committee to review issues surrounding alleged violations of FAR's during Record and Badge

flights. The Committee, composed of Bill Ivans, Rudy Mozer and A.C. Williams, will be responsible for presenting a report and recommendations at the Colorado Springs meeting.

The Board approved inclusion of Motorgliders, 750 K and 1000K in State Record programs. Holders of National or World Motorglider, 750 K or 1000K records are encouraged to contact FAI Coordinator Arleen Coleson concerning listing their records in their respective States.

National Contest sites for 1987 were selected by the Board:

Sports Class Nationals—Harris Hill, Elmira, NY

15 Meter Nationals—Barstow/Dagget Airport, California

Open Class Nationals—Hobbs, NM Standard Class Nationals—Uvalde, TX

The Board Nominating Committee, headed by Bill Ivans, proposed a slate of Officers for 1987. They are: President, Hal Lattimore; Vice-President, William Sproull; Vice-President, Judy Lincoln; Secretary, Richard Schreder; and Treasurer, Ted Sharp. The slate was elected by unanimous ballot.

Finally, the Board selected Directors-at-Large for service during 1987. They are Everett Langworthy (of the NAA), Richard Schreder, Sterling Starr, Eric Mozer, Oran Nicks and Bud Shurmier.

Any SSA Members interested in learning more about activities of the Board or further details of the meeting are strongly encouraged to contact their Regional Director.

# 1987 DESIGNATED AS "YEAR OF THE MEMBER"

During the recent Board Meeting held in Hobbs, the SSA Directors voted a special resolution designating 1987 as "The Year of the Member". This action was taken in light of the Board's commitment to renewed planning efforts aimed at growth of the Society and our sport.

Plans for special efforts on behalf of member services and promotional programs will be announced in the coming issues of *Soaring*.

# ESPN TO AIR "THE QUIET CHALLENGE"

ESPN, the international sports cable television network, will be running "The Quiet Challenge" during the months of November, December, January and February.

The film, produced by Chris Woods and narrated by John Denver, was created to document The Barron Hilton Cup. Reviewer John Joss said in SOARING, May 1985, "Now we have a new standard by which soaring films will be judged, and the entire movement should benefit."

Hilton Hotels Corporation, owner of the film has made it available to ESPN through The Soaring Society as a means of helping to promote our sport.

"We are delighted to share the thrill of cross country soaring with the nationwide television audience," said Barron Hilton, Chairman and President of Hilton Hotels Corporation. "Without a doubt, soaring is truly the purest form of flight," Hilton concluded.

VHS and Beta copies of "The Quiet Challenge" are still available through The Soaring Society. Through the continued support of Hilton Hotels Corporation, all proceeds from sale of the tapes are dedicated to The Soaring Safety Foundation.

# HAVE YOU SEEN THE SSA BULLETIN?

Beginning on July 23, 1985, the SSA Office has published the SSA *Bulletin* on an ad hoc basis. Issue No. 7 was sent out on September 26, 1986, and we anticipate publishing No. 8 in November. It is printed on what we hope is "stop-you-in-your-tracks" yellow paper.

The Bulletin contains important safety and time-critical information which cannot wait for the next issue of SOARING Magazine. Items included in the Bulletin have been Airworthiness Directives, Service Bulletins, Notices of Proposed Rulemaking on FARs, ARSA information, public meeting, and comment deadline dates,

and requests for information on such subjects as accidents, and safety programs.

These *Bulletins* are distributed to all SSA Directors, State Governors, Chapters, and Business Members in hopes that they will help us get the information in the *Bulletins* to the membership-at-large in their area. We have suggested that the *Bulletins* be posted on *Bulletin* boards, published in local newsletters, or circulated through local groups.

If you have not seen a *Bulletin* or think you might be interested in the type of information it contains, get in touch with your Regional Director, your State's SSA Governor, your Chapter's SSA contact or your local Business Member and ask to see it. Help them get the word out.

# SOARING ADVERTISEMENTS HELD TAXABLE

Current interpretation of the New Mexico State laws has led to the intro-

duction of a 4.75% sales tax on classified and display advertisements in *Soaring* magazine. October issue charges and invoices reflected this additional fee. For ease in calculations, the classified rates now include the tax. The rates are 68 cents per word with a 14 word minimum of \$9.52 per ad. Prepayments should include this tax so as not to delay ad placement.

# REQUEST FOR EQUIPMENT

One of the outstanding features of the office's move to Hobbs was the possibility it offered for bringing the everyday functions of the office into line with twentieth century technology. It is happening, albeit slowly, and we are proud of the progress.

However, equipment remains one of the major needs during the process. This is a call to members who might be thinking of upgrading computers, video equipment and TV monitors, and typewriters in their offices or

homes and who might like to take advantage of the tax advantages remaining to them in 1986.

We are particularly interested in having:

IBM Personal Computers with 256K, 2 drives, keyboard, and monochrome monitor. Additional memory, modem, hard disk XTs or compatibles would also be good.

IBM PC-compatible printers with 136 column capability. Dot Matrix preferred, but letter quality also needed.

A VCR playing VHS or Beta with television monitor for monitoring the SSA's small collection tapes and using at Conventions such as AOPA and Oshkosh.

IBM standard desk typewriters (or any of the current crop of typewriter-type word processing machines).

If you have any of this equipment and are interested in donating it to the Society, please call us at (505) 392-1177. Please remember that the Society is a 501 (c) (3) organization and any donation to it is tax-deductible under current IRS regulations.

# AKAFLIEG DARMSTADT FLIES D-40 DESIGN WITH VARIABLE GEOMETRY WINGS

On August 15 the student-members of the Akaflieg (University Flight) Darmstadt celebrated the first flight of their newest sailplane project. After seven years of research, engineering, calculations, proving and construction, they finally finished the D-40, the sailplane with the "pocket-knife" wing.

In flight the wing area can be increased or reduced 21% with the movement of an extendable triangular wing surface from within the wing, controlled by a single lever on the left side of the cockpit in this single seat glider. Because of this feature, the glider would compete in the 15-Meter Class, in spite of not having more "conventional" flaps. But it cannot compete in Standard Class because of that same variable-geometry feature.

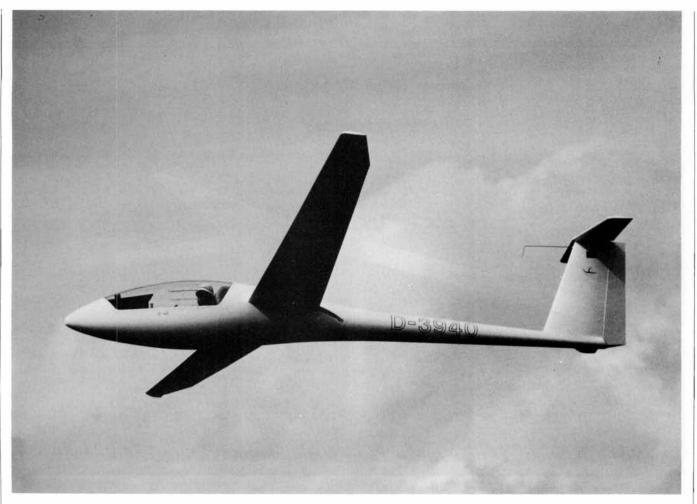
In the early stages of construction, development and mock-up tests they had considered conventional flaps in addition to the extending wing portion. But proving the "pocket-knife" principle was deemed challenge enough for students who were also working full-time toward degrees in their chosen fields

To reduce costs of the D-40, the students built the fuselage, fin, rudder and elevator in LS-3a molds at the Rolladen-Schneider factory at Egelbach. Of fiber reinforced plastics, only the



With triangular flap retracted, above, and extended, below, 21% change in wing area is readily apparent.





Inflight photos show ship in 'conventional' configuration

middle-section of the fuselage between the wings had to be redesigned for all the new flap rods, levers and fixing points to connect the wing with

FLY through 'The GRAND CANYON'



A 2-hour, spectacular **helicopter** exploration you'll never forget.

5 years in the making. This life-like videotape takes you on the most thrilling panoramic flight ever recorded. You'll shoot the rapids and soar through narrow gorges to breathtaking music. **Critically acclaimed**. A must for every VCR library. **Free details. BUSINESS** 

VHS or BETA, Hi-Fi/Stereo \$52.26 **Norman Beerger Productions** 3217-V28, Arville, Las Vegas, NV 89102 (702) 876-2328 the control linkages.

The huge triangular "flap" is hinged near the wing tip, at the inner end of the aileron. The fuselage end is

guided in a fuselage track and driven by the lever in the cockpit. Extension and retraction is aided by two addi-

(Continued on page 12)



Site of the 1991 World Championships . . . . . . invites you to enjoy some of the world's best soaring!

USINESS MEMBER

Wave & Aerobatic Camps Power Transition Courses Motorglider Fly-Ins Cross-Country Seminars

(featuring competition pilots such as Doug Jacobs, Eric Mozer, George Moffat and Wil Schuemann

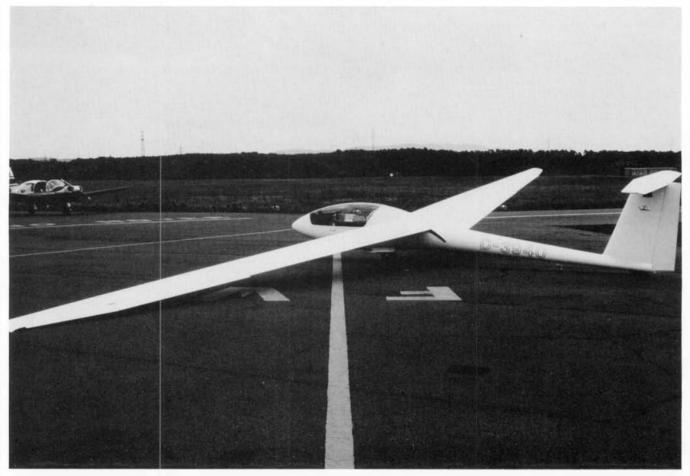
SOAR MINDEN offers individual and group flying plans in our fiberglass sailplanes. We have World-Class Weather and are surrounded by the beauty of the Sierra Nevada Mountains and Lake Tahoe, and are located near some of Nevada's finest Casinos and nightlife.

We've enjoyed soaring with you this past season, and look forward to 1987. Flying during December and January will be by appointment only.

If you'd like more information (or just want to chat about soaring), call Marion Barritt (702 782-7353) or Linda Draper (702 588-6708).

SOAR MINDEN, P.O. Box 1764, Minden, NV 89423, (702) 782-7627 or 782-7535

November 1986



Difference in area graphically shown here with one wing in extended position, one retracted (a ground demonstration only!)

tional levers along the length of the surface, to hold the correct angles during movement and to transfer loads to the wing spar and D-tube leading edge. Giving these two levers the correct form and geometry, to move the surface without torsional forces, proved one of the most difficult parts of the design. A lot of balsa wood was used in the rear portions of the wing, behind the spar, to fabricate the necessarily thin, but strong shells.

Truly the first portable soldering iron A PERFECT GIFT FOR THE SOARING PILOT TEMPERATURE ADJUSTMENT 7" LONG, 1/2" DIA LESS THAN 3 oz. 10 - 60 WATTS POWER NO CORDS OR BATTERIES REPLACEABLE TIPS **AVERAGE 60 MINUTES ON** ONE REFILL **\$24.95** • BUTANE POWERED - CIGARETTE Price does not include sales LIGHTER FLUID tax or shipping Field tested — it works!!! BUSINESS MEMBER PIK\*PACIFIC/MIKE ADAMS 1231 Second Street, Manhattan Beach CA 90266 (213) 376-4590

The aim of the D-40 is to reduce thermaling speeds to allow the use of the stronger inner core of a thermal for better climb performance than current 15-meter racers. However, the D-40 is handicapped in using an airfoil design that dates back 20 years. It was the only one suitable for the variable geometry when the project started in 1979, and at a 17% thickness its performance suffers in comparison with the thin, high performance airfoils used on present-day 15-Meter racers.

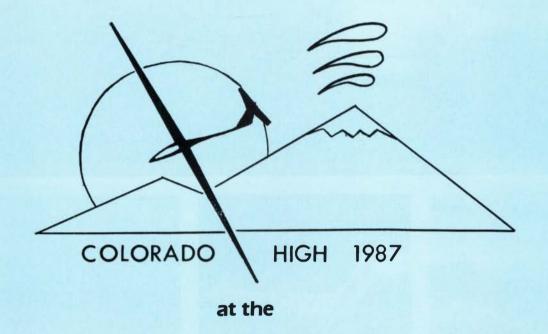
Nevertheless, the completion and flight of the D-40 is a tremendous accomplishment. The students showed off their creation for the press on the day of the 65th anniversary of the Akaflieg Darmstadt, on the airfield that served as its home in the 1920's and '30s; today Darmstadt-Griesheim is a U.S. Army airfield, and generous permission was given by American and German authorities for the flight.

Akaflieg Darmstadt is Germany's oldest university flying group, and has given the sport of soaring many of its finest sailplane designers. The D-40 is a continuance of that tradition.

—Peter F. Selinger

# A NATIONAL CONVENTION IN AN UNBELIEVABLE LOCATION

# FEBRUARY 26-MARCH 1, 1987



# BROADMOORE HOTEL & CONFERENCE CENTER in COLORADO SPRINGS

# AN OUTSTANDING SCHEDULE OF EVENTS

has been planned with speakers at all levels of soaring from beginners to experts. Featured will be a variety of exhibits with the latest in sailplane technology and instrumentation. Tours will be available to the Air Force Academy, and, for the funloving convention delegate, there will be bands nightly.

ADDITIONAL ATTRACTIONS include Garden of the Gods, Cripple Creek Gold Camp, The Royal Gorge, Pro Rodeo Hall of Champions, Seven Falls, Buffalo Bill Wax Museum, Cave of the Winds, Hall of the Presidents, U.S. Olympic Training Center, Manitou Cliff Dwellings, VanBrigle Pottery, and the Cheyenne Zoo.

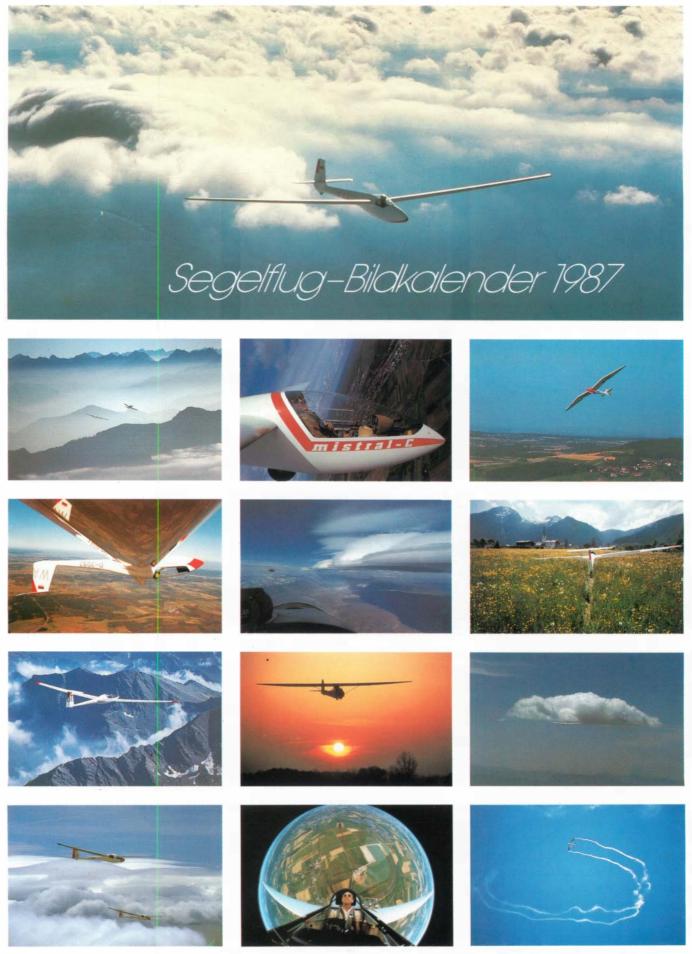
### **REGISTER NOW AND SAVE**

Mail \$35 for yourself and \$15 for each family member to

COLORADO HIGH '87
THE SOARING SOCIETY OF AMERICA
BOX E
HOBBS, NEW MEXICO 88241

For reservations at the World Famous Broadmoore call 1-800-634-7711. Ask for the special SSA Convention Rate of \$77.

COME EARLY — STAY LATE



Enlarged to a 19" x 11" panoramic size, these prints bring you or some special person the excitement and beauty of soaring all year long! Only \$12.95 plus packing and shipping. *AeroSmithing* 4420 Darventry Ct. Charlotte, NC 28226 (704) 365-0621 Packing and shipping: \$3.50 U.S.;\$4.00 Canada; \$4.50 overseas. U.S. currency only. No COD's please.

# REGION 10 WEST SOARING CHAMPIONSHIPS

The July 14-19 dates for the Region 10 West contest had been chosen to

avoid conflict with any National Championships and we were barely able to squeeze it in following the sports Class Nationals in Hobbs. With Red Rivers as Contest Manager, Char-



Region 10 West 15-Meter Class winners, left to right: 1st, Jim Cox; 2nd, John Seaborn; 3rd, Art Pasquali.



Region 10 West Standard Class winners, left to right: 1st, Tonk Mills; 2nd, Claud Gilmer; 3rd, Dave Caron.

lie Spratt as Competition Director, white fluffy flat-bottomed clouds and a bunch of super pilots fro 10 different states, the contest got off to a fantastic start

The Sports Class launched first each day from the taxiway in order to get the AS-W 22 into the air without problems with the runway lights. Day One saw a task for them of 114.6 miles to Morton, Plains and return to Littlefield. Ned Wilson took first place with a handicapped speed of 43.7 mph in his LP-15 *Nugget*. George Nash was second and Tom Kennedy third.

The task for the 15-Meter Class was 174.8 miles to Tahoka, Plains and Littlefield. The day went to Carson Gilmer with a speed of 70.3 mph in his ASOW 20, with Jim Day second and Darrel Watson third.

The Standard Class task was 145.6

(Continued on page 34)

# World's finest eyewear . . .



Ray-Ban (Bausch & Lomb), Corning Serengeti, Zeiss, Vuarnet, Bolle, American Optical, Gargoyles & most top brands. Prescription and non-prescription sunglasses, polarized glasses and many special-purpose lenses. Single-vision prescription glasses start at \$49.90, bifocals at \$59.90 & trifocals at \$75.80. Replacement parts, large inventory, 30 day money-back guarantee, most orders (except prescriptions) shipped within 24 hours. Our 19th year in business. Send for FREE Mailorder Discount catalog & Consumers guide to sunglasses, call 1-512-847-5711 or write to:

HIDALGO SUPPLY CO., INC., Dept. SO, POB 1390, Wimberley, Texas 78676-1390

# **REPLOGLE BAROGRAPH**

Exclusive Pressure Sensitive Paper



Provides a fine line trace on printed time-altitude grid charts without the bother of ink, smoke or fixing.

30,000-ft. linear range with fixed reference stylus permits quick and accurate interpretation.

2 lbs. weight, 4-hour drum, 30-hour clock NEW toolsteel hard scribers.

American made, accurate, convenient and light! With charts, seals, calibration and instructions.

E.H. REPLOGLE

\$330

Product Engineering
23 Wayside Court

Buffalo, New York 14226

Send check for postpaid shipment

BUSINESS MEMBER

November 1986

# FOUR

# on the FLOCR!

by KARL STRIEDIECK, ROBBIE ROBERTSON, JOHN SEYMOUR and ROY McMASTER

In Soaring's July '86 F.A.I. Badges listing there appeared a claim for a new World Single-Place Open Class Record for Distance Around a Triangular Course: 1362. 68 kilometers (846.77 miles). The record was claimed jointly by Karl Striedieck, the late Robbie Robertson, John Seymour and Roy McMaster, who attempted the record as a foursome, and by Tom Knauff, who accompanied them in his Nimbus 3. Here is the story of that flight, told in turn by Karl, Robbie, John and Roy.



Karl Striedieck —
Ould a world record triangle be flown along the Appalachians?
Would the early launch and redline cruise on the ridge be offset by the feeble thermals on the off-ridge por-

tions? These were some of the

thoughts when we first tried the idea on April 6, 1981. Now, some six years and a dozen attempts later, four of us had converged on Eagle Field for yet another dawn blastoff to find answers to those questions.

The initial record alert went out on April 30 and the evening of May 1 saw the four zoomers assembled and watered up.

Reveille was 04:30, followed immediately by the camera/baro drill and marshalling of the four-shipper into the arming area. With a might NAS-CAR roar, the unmuffled Buick V8-powered Jeep thundered each of us into the air and at 06:10 we put the pipper on our first turn, 380 miles and three states away.

Conditions the first 60 miles, while adequate, were nothing to get excited about. The three-mile-wide Altoona gap was crossed using "inertial nav" whereby a head of steam on the north side is used to coast across. 15 minutes were required to handle the Bedford gap and after some more 110 mph ridge running, the 90-mile point—Cumberland—slid by at 07:15.

The part of the ridge between Cumberland and Petersburg features a very low and broken 30 mile section known as the "Knobblies". This section can often by done at 12,000' in wave but not today, so we staggered along behind John as he tried every gust, gully, and protruding rock to get us through. At times we were flying ridges only 200 feet high and local wind currents almost brought us all down.



# Robbie Robertson –

From the "dreaded knobblies" on, the ridge is well defined and seems to run forever—actually, 90 miles of redline to Mountain Grove. I remembered reading in some past symposium report that the ideal position on the ridge is about one wingspan above and two wingspans in front of the crest. That's the theory.

# A Soaring Quartet Shifts into High Gear In Search of a Record on the Appalachian Ridges



But when in the company of the three most experienced ridge runners, it's simply a question of go low and go like hell.

So we fell into line astern, Karl setting a relentless pace in front. The ridge on our left unwinds madly in a blur of trees; the valley, stretched out on our right, moves by more peacefully; we are in a kaleidoscope. The only stationary object is Karl's AS-W 20 suspended in front of me. Time seems almost to stand still; yet at this speed, I reason, we should run off the end of the world soon.

With a ground speed of 110 mph, we reach Mountain Grove in 50 minutes. Here a large dam fills the valley, and the ridge ends temporarily, necessitating a climb and a peel-off to our left to the next ridge downwind. It was still only 09:00, so a certain amount of searching and stirring took place to find and work the fragmented thermals. You can always tell a competition pilot by the amount of individual searching he does—and also by the speed with which he steals someone else's thermal if they are going up better. Another sailplane is the best variometer (George Moffat's rule #497) and we were all doing

a lot of searching and stealing. Thieves in a thermal.

The short jog downwind is relatively easy but essential. John had run through his transition with me the evening before the flight. "Don't go upwind," he had warned me.

"Why not?", I had asked.

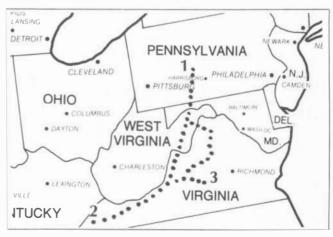
"Can't be done," he insisted. "No way, José. Awful. Horrible. Scare the hell out of yourself." John tends to talk in short sentences, each one a picture. (Got to be careful, though. Can be catching.)

Carving out a triangle, the flight covered a significant portion of landscape up and down the Appalachians. "Why's that?", I asked, sensing that there was a whole cartoon in this.

"Tried it once. Went 'round this upwind knoll." He pointed at my open chart. "Ouch. Valley floor comes up. I mean *up*," he said, drawing his hand across his chest. "Man, did it come up. Impossible to turn 'round."

"So you landed?", I asked.

"No. Couldn't. Still going to fast. Over 100 knots. 'Sheen (machine) won't land over 100. Negative that. Had to go on. Through a woman's back yard. Patio. Deck chairs. Barbe-



November 1986

cue. Washing line. The whole bit. Didn't like the washing line. Too high. Made it, though . . . but never again."

So now, with a mental bye-bye to the barbecue and the washing line, I dutifully turned downwind. Within a few minutes we came to Covington, a familiar sight to those who have flown the Newcastle, Virginia September regionals, and we worked our way across the town heading diagonally back into wind to our main ridge again. There it's more redline stuff.

Past Narrows and Tazewell—all familiar Region IV South turnpoints—and on to our first turnpoint, a wriggly little river named Moccasin Creek that meanders its way across route VA 71. We pull up and out from the ridge, line up with the turnpoint, crank left and hit the cameras. I use up several frames, shooting everything in sight to be on the safe side. Back to the ridge and redline.

We head back the way we came, planning to back-track about as far as Covington, before leaving the ridge to go East to our downwind turnpoint. With a slight tailwind component and ideal ridge configuration between Tazewell and Covington, our ground speed hits 170 mph for the 90-mile stretch. Single-engine Cessnas, eat your hearts out.

As the day warms up, the turbulence becomes worse.

"Bet you're glad I got you all those crotch straps," radios Karl.

"Left mine at home," calls back John.

"Mine too," confirms Roy.
I cinch mine down even tighter,
but say nothing as the stiffer carbon
wings of my *Ventus* A are giving me a

real pounding. The others refer to my *Ventus* affectionately as "that Brand X machine" (well, I *think* it's affectionately; after all, I am in Karl's Schleicher stronghold . . . ). However, the crotch strap seems to have little effect other than to render P-bombs a physical impossibility. At the end of what was to be a 13-hour flight I believe I may have set another world record of some medical significance.

Looking over the ridge to our right, I have been studying the way. I call Karl

"Kimo. Check out the Cu's to the east."

"Yeah. What Cu's?"

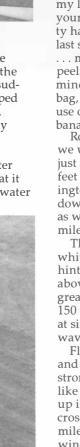
The sky is indeed an almost perfect blue, apart from a few wisps. Without Cu's, the rest of the flight could be a real problem.



John Seymour -

N orthbound, approaching the Narrows at redline speeds, the plastic baggie containing lunch suddenly appeared again as we warped our way through the turbulence. Tired of stuffing it back under my right arm, I though it time for a sandwich.

The problem with peanut butter and honey on whole wheat is that it requires enormous quantities of water



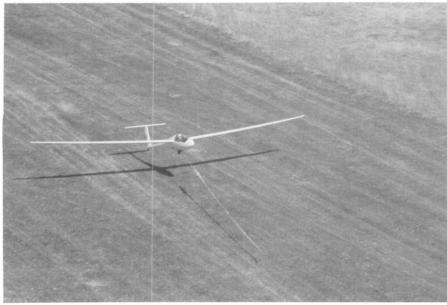


to wash it down. I used aux water from the plastic bottle stowed under my left arm. Karl: "Go ahead and try your banana." The little yellow beauty had taken such a beating for the last six hours that it was indeed soft ... mushy ... puree, maybe. It defied peeling—amazing visions came to mind. I stowed it back into the plastic bag, hoping for no leaks. Emergency use only, I thought. "Roger on the banana."

Roaring along at ridgetop height, we were again in familiar territory, just abeam of Newcastle. A thousand feet into a thermal just short of Covington allowed us to start our trek downwind, crossing lush green ridges as we headed for the second turn 50 miles out into the flats.

The sky was steel blue with little white wisps, churning overhead, hinting of rotor and strong wave lift above. Over the radio came reports of great wave conditions at Petersburg, 150 miles to the north, with someone at sixteen thousand. The search for wave was on.

Flying to the second turn in wave, and even better, flying back into the strong wind to the ridges, would be like a dream come true. We climbed up into two strong, broken thermals, crossing two ridges in the process. Ten miles south of Covington, just downwind of the big ridge, was where it should be. We covered the area like a blanket, bumping around at the tops of the rough thermals, all eyes on each other simultaneously so as not to miss it when one of us found the





Opposite page, bottom: liftoff by jeep tow to start the flight. Left: a cockpit-eye view of the ridge.

magic location.

I knew we were close, for it felt right—all we needed was another 500 feet and success would be ours. Eight knots up for a second or two, nose immediately into the wind, then ten knots sink—averager at zero. For twenty minutes we must have looked like crazed swallows trying desperately for the elusive wave. If not wave, then, cloud streets. Condition ahead were drying out rapidly—the dreaded blue day! We decided to press on toward Eagle Rock where the last cloud had formed seconds ago and dissipated just as we reached it. We glided on. Just off my left wing, Roy, with his radio off to conserve battery power for his electric barograph, needed no radio to convey his thoughts. Ours were the same.

With this amazing tailwind and just a few thermals we could drift into the second turn past Appomattox, VA, but getting out of there would be impossible. Conditions were now blue as we crossed the interstate highway and the river downwind of Natural Bridge. Thermals were topping at 5500' MSL. From our experience we could expect a minimum of 4000' working altitude once out in the flats, marginal at best. Now we needed light gliders, maybe six pounds wing loading instead of our ten pounds plus, but coming out of the turn, lead sleds would be required. We dared not dump.

On a previous flight a few years ago, we had been faced with the very same decision, whether to go for the

turn and a certain landing or try to get home. Here we go again, 300 miles from home, downwind, no crews, impossible, windy, blue conditions. Now we wanted to proceed 40 more miles downwind into the flats! The odds were so far out that we might as well give it a try. In our favor was the early hour, 13:00 EDT, and one more ship. The last time we all landed out anyway!

The last possible place for a ridge save was just north of Lynchburg, where there was a tiny tree-covered hill just north of the river. A flight of four, line abreast, headed for it at max glide in smooth 3-knot sink—steady smooth 3-knot sink.

Sure enough, over this last hill, a good thermal. We worked it to the top, clawing for every inch of altitude while drifting onward at 35 knots. Off again into the sink. Then, another good 5-knot thermal. It soon became apparent that the wave was influencing the convection below, for good thermals were found at regular 5 mile intervals. We crossed the James River, and Appomattox soon came into view with the interstate highway leading southeast to the turnpoint at Pamplin, VA.

We discussed the ground features and the exact position to take the photos. A new parking lot in front of what looked like a convenience store was located next to the railroad/road intersection, its new blacktop easily identifiable. Photos at 13:14 EDT—the elusive second turnpoint completed—and we head straight back into the wind.

During our many hours of flight planning, we knew that extraordinary conditions would be required to get us back into the mountains and ridges, some 40 miles distant against the strong wind. Wave would be ideal, but at a minimum cloud streets would be needed. Our wave theory was confirmed by Tom Knauff, along for the ride in his monster *Nimbus*, as he headed for Pamplin after having contacted wave and climbed to twelve thousand just upwind of Eagle Rock. We pressed on, no wave, no cloud streets, drifting back badly in each thermal. Progress was slow, but the thermals were remarkably good, no doubt helped along by the waves above.

At the James River, Robbie was dangerously low and behind, but we

couldn't wait for him to catch up due to the brutal wind. Again, we headed for the first little tree-covered hill, after missing a thermal that would have gotten us over with comfort. I deviated a little south to come around the end as we were too low to make it over the top, a taste of things to come.

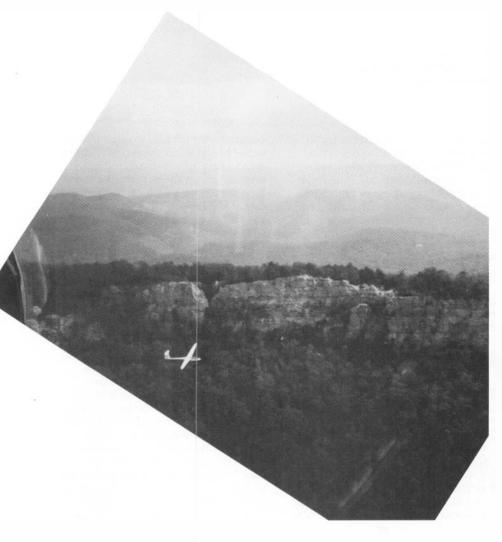
Around the side of that first friendly little hill was a good thermal just on the upwind slope. Remarkably, we were all together again. Robbie had caught up with the gaggle through some amazing secret feats of airmanship. Our thermal was a critical one, for from its top we would attempt to cross to the upwind side of the Shenandoah main ridge. Approaching from the back side of any ridge is exciting stuff, but this one would be risky indeed, due to the surrounding terrain and the strength of the wind. The 6-knot thermal held to 6000'. then became broken. The averager settled to one knot. I headed out, as luck had given me a few hundred feet on the others. A curt radio transmission, "Sierra Mike is out of Dodge."

If only there were a cloud to aim for—but no, just trees, no place for a save, no place for a landing. More water, lead, pennies, bags of pig iron, anything for a heavier wing loading, never mind that, we're already at max gross. The others back at my six were thinking the same thing, I knew they were. Airspeed at 90 knots with the angle looking OK. Then, the sink, just as advertised. Off to my left and a little lower, Karl passed in rocket mode. Blood pressures were off the charts! Radio silence. I picked out a tree on the ridge line of the mountain crest a few miles ahead and fixated on it. Our altitudes were the sameeven. Out of the corner of my eye, I could see a gully that led through to the other side, but it was a mile or so away. A desperate plan-might as well be Reno.

Then, more turbulence and sink as the air spilled down the back side of the mountain. Karl was just ahead, aiming for the same tree! Sink—off the clock. The trees were big, then we were up and over the top! OK to breathe again as we watched Roy and Robbie clear the crest. Science and technology triumph over fear and superstition once again!

As we thermaled up just short of Buena Vista, a major decision was at hand as to which route to take back to

November 1986



the main ridge. The conservative choice was to backtrack slightly to Buchanan and proceed straight upwind, crossing six tree-covered ridges and valleys to intercept the main ridge somewhere north of Covington. Choice two was to proceed northeast along the Shenandoah National Park ridge line, transition upwind to the Massanuttin Ridge to Front Royal, then thermal upwind to intercept around Cumberland.

It was now 15:00 hours with some tiny clouds visible in the mountains to the north. Tom, in the *Nimbus*, has cut us off, doing the entire second turn in wave. He sure missed some fun.

He reported some clouds up at Waynesboro. The thought of more ridge dives and the magnetic effect of cumulus clouds had us northeast-bound in short order. A risky decision, for the last time we tried this option, all landed out.

The gaggle pushed on, bumping thermals, none strong enough to circle in. Passing Steels Tavern, we were within 500' of the ridge top in marginal lift. This seemed odd as the wind was still strongly on the ridge, trees bending over in the proper di-

rection, no upwind ridge to spoil the lift, laboratory conditions indeed. The 2200' ridge was a bit scraggly in spots, but should work. In a few miles its direction changed, bending around the corner for about six miles so that good height was necessary to reach to next downwind portion.

Down even with the crest, we flew to the end, then below the top. Possible trouble. Karl and Roy were just ahead, wingtips hugging the ridge. Roy turned right and disappeared out of sight around the corner into certain oblivion. Karl turned back, dumping! Now we're in BIG trouble! Three of us turned back, unloading ballast, sinking lower. In two minutes, we're back in a tiny gully that went perhaps a quarter mile into the ridge. There was barely enough room for a figure eight, trees and rocks on both sides. The low man continued to dump. There was some lift, but rough and disorganized, sort of like our flying. I was the low man, so OK to dump. No-Robbie sunk down just below, so stop the dumping. We bobbed up and down, dump valves getting red hot. Sportsmanship at its best!

Changed direction then, frantic flying. Slowly we climbed, finally even

with the top of the ridge. The thermal broke loose and up we went. What a save! All that low, weak ridge flying experience years ago in Dad's Ka-6 (not withstanding two of the world's best 15-Meter varios) has just paid golden dividends.

The thermal improved to 6 knots as we searched to fields below for Roy. Nothing. Perhaps he had continued south and missed us performing our gully act. Then, a tiny white dot in the sky up north, towards Waynesboro. Must be an airliner . . . no, moving too slowly. A weather balloon, then . . . no, going into the wind. Can it be? Roy . . . ? Ripley's Believe It Or Not strikes again! Roy at 8000'! The man who disappeared around the corner into certain oblivion, defying all scientific meteorological principles, connected with an 8-knot thermal in Virginia's monster sinkhole! Risky business, this.

Thermal conditions improved as we flew north over the magnificent Shenandoah National Forest, once again in a flight of four.



Roy McMaster -

ne of the lovely things about this type of team flying is the mutual radio conversation and decision-making not found in contest flying. The visual delights of the Appalachian Mountain chain and its multi-hued green-forested hillsides were shared by all in quiet joy behind the adrenaline-spiked intensity of concentrating on the flight.

Unfortunately, someone had unplugged the battery charger in my AS-W 20's trailer back at Harris Hill, so the battery, which should have been fully charged, was nearly flat. As the needle in the battery level indicator moved into the red, electric switches went off. First the radio (Karl is supposed to be the "Lone Ranger", not me!), then the electric vario and its blessed audio. All energy had to be saved for the electric barograph.

Fortunately, the lack of radio didn't deprive me of the visual joy of the textured emerald landscape below. However, my eyes were watering and my neck muscles complaining from

the concentration necessary to keep the other three in constant visual contact so as to remain part of the excursion.

While they retreated in animated radio conversation trying to talk their way up out of the gully, I continued to the corner of the ridge, about five miles north of Montebello VOR. While they scratched gravel in the last tiny gully still favoring the wind, I slipped past the point of no return and looked down in disgust at the same field near Stuarts Draft where I had landed three years earlier on one of the unsuccessful attempts at this

In the rush to drive to Karl's the night before, I had asked my 12-yearold son Randy to put my ridge maps in the car. Well, they were still at home in Canandaigua, New York on the kitchen table. I was flying with borrowed pieces of map, all of which ended in the critical corner near Stuarts Draft, Virginia. That sinkhole was clearly marked on the maps back in Canandaigua, so I wouldn't do what I

had just done!

The ridge tops are around 2000 feet above the valley floor in this area. We were probably experiencing some wave cancelling of the ridge, but I was too slow to recognize it. I headed west into the wind toward a good field and hoped for some miracle as I reached for the gear handle.

There it was! At about 800 feet above an airport-sized, freshly-cut hay field, a broken but strong thermal promptly threw me out of its side. Heavy aileron and rudder got me back in, with constant and gross adjustments to stay centered. Five knots ... then eight ... concentrate!

I was back even with the 3500' MSL ridge top and intensified my attention on centering the now strong and growing thermal without the benefit of the audio and electric vario. At about 6000' MSL I noticed a thin wisp of Cu and then Tom's monster Nimbus joined me from above. Now that I could breathe again, I searched for the balance of the "Eagle Field squadron". South, way down in a gully at ridge height, I could see wings flash in the "save" described by John.

At 8000 feet I headed north past Waynesboro, Virginia, passing about five miles east of the Shenandoah airport. The rest of the flight looked very bleak at this point and I elected to wait for the other three to catch up, so we could at least land in the same area and coordinate a mass retrieve.

We joined up accelerating down to ridge top height about five miles north of Harrisonburg, Virginia at the south end of the 45-mile-long ridge soaring dragstrip known as Massanutten Mountain. Karl again took the lead setting the pace at 130 knots with about half water. I began to overtake, with full bags resulting from the blissful ignorance of radio silence.

I flew with one eye on the blur of trees and the other on the wonderful Schuemann pneumatic vario, with averager, installed for just such electrical calamities. The prospect of more "death dives" into the air plunging down the lee side of the next five or so ridges separating us from our main ridge began to weigh on my mind. I had had enough scares for one day! At least we were making miles northward and would shorten the retrieve, probably landing near Winchester as we had some 12 years earlier on another unsuccessful attempt.

The visibility was magnificent with a crystal horizon and a cobalt sky, nearly void of the necessary punctuation of white cumulus puffs and hoped-for cloud streets, except for one line we could see at the north end of Massanutten. We arrived at the end of the ridge at warp speed (140 knots)

Seymour and McMaster pulling up over the tower at Eagle Field, which served as the start/finish line.



21 November 1986

and pulled up on nuclear kinetic energy, gaining about 2000 feet and hoping to curl into a thermal connecting with the street. It was there! The most magnificent dreamed-of save ever was a reality as we spiraled upward at eight knots to cloud base at 8000 MSL.

We could now see that the street stretched 60 miles, straight into the 50-knot headwind to Mt. Storm with its huge coal-fired electric generating station and strobe-covered stack spewing a thin horizontal vaporous windsock for our benefit. At this point, with an inward upwelling of joy that brought tears to our eyes, we all realized (except maybe Robbie—"Where are we?") that we would complete the flight unless we did something really stupid. (I knew I was perfectly capable of that so I flew with extra caution.)

We bored into the wind four abreast, merging to single file and meandering back apart to seek out the strongest part of the thickening street, and maintained a steady 100-knot cruise. This gave us about 50 knots ground speed so the impossible and feared upwind transition took about an hour at comfortable altitude with no losing turns necessary. I could not figure out why I was suddenly running so much better than the other three, never dreaming that they could have dumped any water!

At Sheer, West Virginia, we dove into the main ridge and headed north toward Keyser, West Virginia, where fearless leader John had led us into, and up out of, the trees for a miraculous save hours earlier. We flew cautiously along the Knobblies in a sort of wave/ridge/thermal homogenous mix that is frequently there in the late afternoon; not fast, but maintaining altitude while pressing northward.

At Cumberland, Maryland's Haystack Mountain, we again went into overdrive, taking a pounding right down at tree-top level where the wind was going straight up. Karls's newly installed five-part seat belt kept his head comfortably beneath the plexiglass and happily not in contact therewith. The extra wingloading on my ship made for a smooth ride some 500 feet higher while maintaining the tree-blurring pace.

The last really treacherous gap was at Bedford, Pennsylvania where the turnpike passes near the airport. None of us wanted to blow the flight now, so we were especially cautious in taking the time to climb high enough for a safe transition across the ten miles, quartering into the wind to Dunning Mountain. Without the ra-



Above; Tom Knauff snapped the picture of the foursome on the ground after the flight from his Nimbus. Below, left to right: Knauff, Robertson, Seymour, Striedieck, and McMaster



dio, and using more caution, I was last to cross and and join the others at Altoona for the final sure leg home.

With radio prompts the other three easily remembered to go north past Eagle Field for the third picture at Ridge Soaring Gliderport. They slowed after snapping the final picture so I could catch up, and the entire "squadron" passed the Eagle Field fire tower in a line abreast and saluted our official observer, "The Great Weedoni," then circled back in the pattern for a mass landing. Fortunately, Eagle Field is quite long, so a

single-line formation landing with nearly simultaneous touch-down was possible. We still had about two hours of sunlight left—we should have flown another 200 miles! Well, maybe next time.

We had waited five years for this day! The joy of the shared experience and special privilege of viewing the Appalachian chain from the eagle's perspective began and finished, appropriately, at Eagle Field as a squadron of four, rather than a lone eagle, thanks to Karl's generosity.

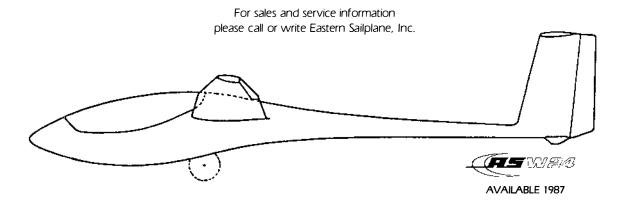
22 SOARING

# SCHLEICHER SAILPLANES IS CHANGING HANDS!

Karl Streideick would like to take this opportunity to introduce John Murray of Eastern Sailplane as the new representative for Schleicher Sailplanes.

Schleicher would like to thank all it's loyal customers for their past support and assure everyone of the same high level of service you have come to expect from Schleicher.

Eastern Sailplane would like to thank Karl for entrusting us with the excellent reputation he has helped Schleicher develop for the past twelve years. We promise not to misplace that trust.



John Murray would like to take this opportunity to announce Cambridge Sailplane changing its name to EASTERN SAILPLANE, INC..

Eastern Sailplane will continue to offer a complete line of Cambridge instruments, sailplane equipment, and Schleicher Sailplanes.

Also, Eastern Sailplane is an FAA Certified Fiberglass Repair Station.

DISTRIBUTORS OF



Walter Dittel Radios



(413) 625-6117 John Murray Heath Stage Rt., Shelburne Falls, Ma 01370



# F.A.I. BADGES

**& OTHER SSA AWARDS** 

ARLEEN COLESON

# INTERNATIONAL F.A.I. BADGES FOR SOARING Earned or Recorded in the **United States Through August 1986**

### INTERNATIONAL NUMBER **ASSIGNED**

Gerald W. Freeman (U.S. 625) 3939. Perry Burholm (U.S. 622)

# **DIAMOND BADGES**

Joseph F. Dobronski, Sr. 631. Otto E. Croy

632. Peter Kasloff 633. Michael G. Byrne

## **GOLD BADGES**

1695 Edward R. Thornton 1696. David M. Leonard

1697. Janos A. Bokfi 1698 Mary E. Hunt

1699 Harry D. Brown 1700. Robert C. Gibbons

1701. Frank E. Kruesi 1702. Phillip MIsna

Karlan P. Greene 1703.

# **SILVER BADGES**

4868. Robert Fritsch 4869. Victor W. Haynes

4870. Ronald J. Tumminello

4871. Rex D. Hamilton 4872. **David Wright** 

4873 Torn W. Morris 4874. Neal M. Nelson

4875. Daniel E. Warnick

4876. George Najarian 4877. Phillip MIsna

4878. Gerald A. White 4879. Paul R. Ries

4880. Mark H. Denzler 4881. Harry A. Nutter, Jr.

4882. David C. Reusch 4883. Karlan P. Greene

4884 A. Edgar Loeb 4885 Bama A. Szaho

# 1000 Kilometer Distance

Carlton M. (Bud) Mears; 627.698 miles from Minden, NV; LS-3a; 8:12 hrs.; July 1.

# DISTANCE DIAMONDS

# 500 kilometers

(310.7 miles) Michael G. Byrne; 326 miles from Minden, NV; PIK-20D; 7:13 hrs.; August 14. Gregory M. Crook; 361 miles from Uvalde, TX; AS-W 20; 5:20 hrs.; August 9. Otto E. Croy; 369 miles from California City, CA; Pegasus; 5:45 hrs.; August 21. Joseph F. Dobronski, Sr.; 314 miles from Highland, IL; Nimbus 2; 5:50 hrs.;

August 28. Alfonso Jurado; 361 miles from Uvalde, TX; AS-W 20A; 5:25 hrs.; August 9. Peter Kasloff; 356 miles from California City,

CA; Astir CS; 6:30 hrs.; August 28. Steven R. Lawrence; 312 miles from Refugio, TX; Ventus BT; 6:19 hrs.; August 9.

# **GOAL DIAMONDS**

### 300 kilometers (186.4 miles)

Harry D. Brown; Pegasus; Hempstead, TX Karlan P. Greene; SHP-1; Hobbs, NM Rex D. Hamilton; G-102; Dalhart, TX Frank E. Kruesi; Mini-Nimbus; Hailey, ID Phillip MIsna; PIK-20D; Owl Canyon, CO Lutz Mockel; LS-4a; Westcliffe, CO (Certified to West Germany)

Richard W. Siegfried; Mini-Nimbus; Minooka,

Leslie L. Stoner; Open Cirrus; Hempstead,

David Wright; PIK-20D; Ephrata, WA

# **GOLD BADGE LEGS**

# Altitude: 3000-meter gain (9842-ft.)

Allen B. Campbell; HP-16; Garden Valley, ID Yoshizo Fujimoto; G-102; Minden, NV (Certified to Japan)

Robert C. Gibbons; PIK-20B; Taos, NM Thomas E. lungerich; 1-26; Westcliffe, CO Bryan W. Kreimendahl; 1-35; Crystalaire, CA David M. Leonard; H-301 Libelle; Crystalaire,

Phillip MIsna (See Dia. Goal) Seiichi Sawai; Pegasus; Minden, NV (Certified to Japan)

### **DISTANCE: 300 kilometers** (186.4 miles)

Janos A. Bokfi; Astir CS; Califomia City, CA Harry D. Brown (See Dia. Goal) Karlan P. Greene (See Dia. Goal) Rex D. Hamilton (See Dia. Goal) Mary E. Hunt: 1-26; California City, CA Frank E. Kruesi (See Dia. Goal) Ducky Mc Ewen; 1-35; Ionia, MI Phillip MIsna (See Dia. Goal) Lutz Mockel (See Dia. Goal)

(Certified to West Germany) Rodolpho S. Penteado; Nimbus 2; California City, CA

(Certified to Brazil) Richard W. Siegfried (See Dia. Goal) Leslie L. Stoner (See Dia. Goal) Edward R. Thornton; 1-26; Taos, NM David Wright (See Dia. Goal)

# **SILVER BADGE LEGS**

# Altitude: 1000-meter gain (3281-ft.) Peter L. Bloom; G-103; Estrella, AZ

Keith D.A. Crawford; Club Libelle; Minden,

(Certified to Canada) Bradley R. Devendorf; 1-26; Aiken, SC David W. Driesse; G-102; Minden, NV Eric R. Hanner; 1-34; West Bend, WI Ray Kleber; 1-23; Wilson, NC John W. Knesevich; G-103; Highland, IL Pamela Maag; 2-33; Hemet, CA James W. Marvin; LS-3a; Ridge Soaring, PA James M. Mc Daniel; 1-26; Jean, NV Robert R. Mc Elyea; 1-26; Phoenix, AZ (Turf) J. Scott Miller; 1-26; Midlothian, TX Iris Mittendorf; Blanik; Wadsworth, OH Robert L. Nutt; 1-26; Estrella, AZ Kirk E. Stant; G-102; Mt. Airy, NC James D. Stewart; G-102; Montevallo, AL Lorren Stiles; G-102; Connecticut Soaring Center, CT

Steven Vihlen; Ka-6; West Germany Jon Walke; 1-26; Tehachapi, CA Craig Weisman; 2-33; Eagles Nest, TX Ernest B. Williams, III; G-102; Memphis, TN Scott C. Zippwald; AS-K 21; Minden, NV

# **Distance: 50 kilometers** (31.1 miles)

David S. Belford; Pegasus; Minden, NV (Certified to Great Britain) Keith D.A. Crawford; Club Libelle, Minden, NV

(Certified to Canada) Mark H. Denzler; PIK-20B; Minden, NV Robert Fritsch; 1-34; Crystalaire, CA Yoshizo Fujimoto; G-102; Minden, NV (Certified to Japan)

Hayden P. Gildersleeve; 1-26; Falcon, CO Karlan P. Greene (See Dia. Goal) Ray Kleber; AS-W 15; Erwin, NO A. Edgar Loeb; G-103; Fairfield, PA Charles E. Michel; Ka-8B; Monroe, GA Tom W. Morris; 1-36; AirSailing, NV Rex D. Hamilton; G-102; Wichita, KS Sugi Nakano; 1-36; Estrella, AZ (Certified to Japan)

Harry A. Nutter, Jr.; Pegasus; Barre-Hiller, MΑ

Paul R. Ries; 1-35; Pittstown, NJ Bama A. Szabo; G-102; Highland, IL Steven Vihlen; Ka-6; West Germany J. E. Warr; 1-26; Eagles Nest, TX Gerald A. White; Pegasus; Minden, NV

### **Duration: 5 Hours** Malcolm R. Adams; Pegasus; Ridge Soaring,

(Certified to Great Britain) Jeffrey J. Baldwin; 2-33; Mokuleja, HI Larry M. Brand; 1-26; Reno-Stead, NV Leroy D. Buell; Std. Cirrus; Scott Airpark, VA Bradley R. Devendorf; 1-26; Aiken, SC William C. Eddy, III; Std. Cirrus; Richmond,

Mel H. Eklund; 1-26; Phoenix, AZ (Turf) Robert Fritsch; 1-34; Crystalaire, CA Edmund C. Ginn, Jr.; 1-34; Hemet, CA George S. Glenn, Jr.; 1-26; Lehighton, PA Karlan P. Greene; SHP-1; Hobbs, NM Victor W. Haynes; DG-101; Hailey, ID Eric S. Hinz; 2-33; Mokuleia, HI Walter J. Lafford, II; Blanik; Connecticut

Soaring Center, CT Wallace J. Moran; AS-W 15; Great

Barrington, MA George Najarian; HP-14T; Tehachapi, CA David C. Reusch; Astir CS; Ephrata, WA Frank J. Suatoni, Jr.; G-103; Ridge Soaring,

Daniel E. Wamick; Std. Cirrus; Scott Airpark,

David E. Williams; 1-26; El Tiro, AZ

# Altitude/Distance

Allen D. Campbell (See Gold Alt.) Bob Franzke; 1-26; California City, CA

# Altitude/Duration

Yoshizo Fujimoto (See Gold Alt.) (Certified to Japan)

Wildey E. Johnson, Ka-6E; Peach State, GA William H. Maute; G-103; Highland, IL Suji Nakano; 1-36; Estrella, AZ (Certified to Japan)

Harry A. Nutter; Pegasus; Barre-Hiller, MA Sabine Prather; 1-26; Air Sailing; NV Robert B. Rueve; Blanik; Highland, IL

Stephen D. Summers; 1-26; Eagles Nest, TX Patricia C. Tolle; G-103; California City, CA Richard Wallace; Blanik; Crystalaire, CA

### Distance/Duration

Phillip MIsna (See Dia. Goal) Neal M. Nelson; Libelle; Oviedo, FL Ronald J. Tumminello; 1-36; Hinckley, IL

Altitude/Distance/Duration David Wright (See Dia. Goal)

# **BRONZE BADGES**

Malcolm Adams; Ridge Soaring, PA Charles R. Beskow; Eagles Nest, TX 331 332. Stanley Brym; Canaan, CT 333 Verity L. Fitzhugh; Ridge Soaring, PA 334 William M. Ford; Eagles Nest, TX Robert M. Gerhard; Ridge Soaring, PA 335. 336. Eric R. Hanner; West Bend, WI 337. Frederick Knabe; Colts Neck, NJ Jaime E. Markham; Adelanto, CA 338. 339. Paul Mc Claskey; Ft. Wayne, IN Roger L. Mc Makin; Eagles Nest, TX 340 341. David C. Plunkett; Black Forest, CO 342. Stephen D. Summers; Eagles Nest, 343. J. E. Warr; Eagles Nest, TX

# **C BADGES**

13.073. Colin Anderson; Bay View, WA Charles R. Beskow, Eagles Nest, 13.074 13.075. Donald E. Borchert; Perris, CA 13,076. John V. (Jeb) Bozarth; Warrensburg, MO 13,077. Thomas R. Brannock; El Tiro, AZ 13,078. Bud De Vaughn; Vacaville, CA John M. Dobbins: Warrenton, VA 13.079. 13,080. Mel H. Eklund; Phoenix, AZ (Turf) Gary L. Essenpreis; Colts Neck. 13 081 13.082. William M. Ford; Eagles Nest, TX 13,083. Eric R. Hanner; West Bend, WI 13,084. John W. Irion, Jr.; Eagleville, TN 13,085. Amy J. Jenista; Boulder City, NV 13,086. Norman B. Johnson; El Tiro, AZ 13.087. Robert S. Lee; Eagles Nest, TX Howard Macfarlane; Pilot 13,088. Country, FL Gregory Markowski; California 13.089. City, CA 13.090. Houston K. Matney; Blairstown, 13,091. James A. Mc Culley; Warrenton, 13,092. Laurel A. Mc Kone; Oxford, MI 13,093. Linda K. Mc Tague; USAFA, CO 13,094. Daniel H. Morris, III; Collegeville, 13,095. Marcus B. Niessen; Warrenton, 13.096. David C. Plunkett: Black Forest. CO 13.097 Thomas M. Read: West Bend, WI 13.098. Jon Sailisbury; Colts Neck, NJ 13,099. Mark L. Saunders; Santa Ynez, 13,100. Sally A. Sisson; Phoenix, AZ (Turf) 13,101. William Slofer, Jr.; Collegeville, PA Walter L. Spinolas; Orlando, FL Robert A. Stegman; 13,102. 13,103. Warrensburg, MO

Eric Swenumson: Santa Ynez. 13.104. CA 13,105. Troy A. Vanderhoof; Athol, ID Robert J. Vitello; Moriarty, NM 13.106. J. E. Warr; Eagles Nest, TX 13.107. 13,108. Craig A. Weisman; Eagles Nest, 13,109. Jeffrey Wesolowski; West Bend, WI 13,110. Norman A. Williams: Kutztown.

Ronald D. Alt; White Sands, NM

### **B BADGES**

13,111.

Ronald D. Alt; White Sands, NM Gregory Anderson; Hinckley, IL Ben Bass; Shreveport, LA Charles R. Beskow, Eagles Nest, TX Donald E. Borchert: Perris, CA Charles K. Carodine; Vacaville, CA Charles Carroll; California City, CA Ken Chamberlin; Eagles Nest, TX Kemp Curtis; Jean, NV Scott R. Dahl; Owl Canyon, CO Bud De Vaughn; Vacaville, CA Gary L. Essenpreis; Colts Neck, NJ Hans C. Geyer; Oxford, MI Daniel E. Gronning; Stanton, MN Eric R. Hanner; West Bend, WI John W. Irion, Jr.; Eagleville, TN Masatoshi Ishibashi; Hinckley, IL

Amy J. Jenista; Boulder City, NV Ricky L. Jones; Albuquerque, NM John W. Kaitschuck; Adrian, MI Barbara Kipping; Plainfield, IL Stuart W. Konietzko; Adrian, MI Harold D. Lung; Perris, CA Howard Macfarlane; Pilot Country, FL Gregory Markowski; California City, CA K. Houston Matney; Blairstown, NJ Laurel A. Mc Kone; Oxford, MI Thomas M. Read; West Bend, WI Jon Salisbury; Colts Neck, NJ Mark L. Saunders: Santa Ynez, CA Corwin L. Sharp; Canaan, CT Sally A. Sisson; Phoenix, AZ (Turf) George H. Sivy; Connecticut Soaring Cente,

William Slofer, Jr.; Collegeville, PA Walter L. Spinioles; Orlando, FL Eric Swenumson; Santa Ynez, CA J. E. Warr; Eagles Nest, TX Craig A. Weisman; Eagles Nest, TX Jeffrey Wesolowski; West Bend, WI Benjamin K. Yorkoff; Woodbine, MD

# **RECORDS APPROVED**

Idaho; Multi-place; Open; Altitude Gain; 11,300 ft.; Thomas F. Dixon; Blanik; August 3; Sun Valley.

Nevada; Single-place; Junior; Straight Distance/Distance to a Goal; 56.58 mi.; Louis M. Maze; 1-36; July 27; Fallon.

New York; Single-place; Feminine/Standard Class; Absolute Altitude/Altitude Gain; 12,900 ft./9,100 ft.; Lurana K. McCarron; Libelle 201 B; May 4; Balston Spa.

New York; Multi-place; Open/Senior; Distance to a Goal: 69.9 mi.: Charles W. Hoffman, pilot/ Anthony G. Meli, passenger; July 10; Lockport.

Tennessee; Single-place; Standard; Straight Distance; David P. Howard; Std. Cirrus; October 5, 1985; Chattanooga.

Texas; Single-place; Standard; Straight Distance; 386.15 mi.; Charles W. Shaw; 1-26; August 12; Snyder.

# **RECORDS CLAIMED**

- U.S. National; Single-place; Standard Class; Straight Distance; 458.02 mi.; James M. Payne; September 6; Tehachapi, CA.
- U.S. National; Single-place; Standard Class; Distance to a Goal; 388.56 mi.; Fritz O. Seger; September 6; Crystalaire, CA. (This Record to be claimed if the following record is not approved.)
- U.S. National; Single-place; Standard Class; Distance to a Goal: 400.84 mi.: Graham Thomson: September 6: Tehachapi, CA.

### 1-26 RECORDS

Region 11; Speed Around a Triangular Course of 200 km; 23.01 mph; C. Dudley Mattson; August 28.

## OTHER LONG FLIGHTS Non-Badge flights over 250 miles

August 2; Fritz Seger; Astir CS-77; 351 miles from Crystalaire, CA to Austin, NV; 7:55

August 4; James M. Payne; LS-4a; 278 miles from Tehachapi, CA to Minden, NV; 5:45

August 16; Karl Sommer; H-301 Libelle; 326 miles from Crystalaire, CA to Yerrington,

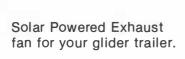
August 19; Juan Batch; Pilatus; 319 miles from Eagles Nest, TX to Crane County Airport, TX to Seminole, TX to Snyder, TX and return; 6:55 hrs.

August 23; Henry Combs; H-301 Libelle; 355 miles from Crystalaire, CA to Fallon, NV; 7:20 hrs

August 23; Fritiz Seger; Astir CS-77; 345 miles from Crystalaire, CA to Kingston Village, NV; 7:30 hrs.

September 6; Karl Sommer; H-301 Libelle; 390 miles from Crystalaire, CA to Beaver, UT; 7:40 hrs.

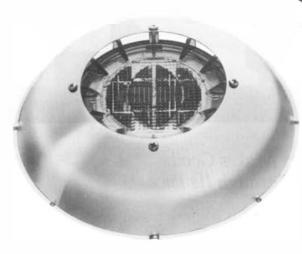
PROTECT YOUR GLIDER FROM MOISTURE



No batteries - No Wires

Easy Installation

BUSINESS MEMBER



# SUN-POWER/DAY



# POWER/NIGHT







RIDGE SOARING GLIDERPORT

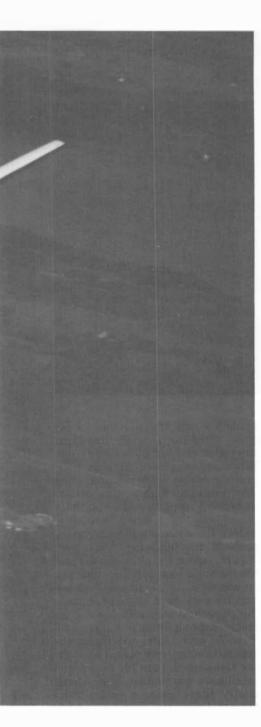
(814) 355-1792

R.D., JULIAN, PA 16844



A Classroom Project Makes Good; College Ship is Put Through Its Paces

eaders of Soaring have already had a description of the design and construction of the all-composite, light weight RP-2 sailplane designed and built by students at Rennselaer Polytechnic Institute in Troy, NY (Soaring, June '83). The aircraft was finally completed in 1985 and the first qualitative flight tests were made (without the wheel fairing in place and without the split flaps being operable) by auto and aero tow at Saratoga County Airport on three relatively nice days between snow and ice storms in late November (Soaring, March '86). Also, the glider has been on static display in the homebuilt sec-



RP-2 southeast of Saratoga Airport with Saratoga lake in background. Note the split flaps deployed at about 30°.

conditions.

The weight of the glider with everything aboard except the pilot came out at about 273 pounds; with the 145-pound pilot aboard the gross weight went to 418 pounds. In the first tests 19 pounds of lead ballast was added in the nose area to make the center of gravity come out at 30% of chord and upped the gross weight to 437 lbs. In later tests the ballast was removed.

Earlier calculations based on the aerodynamic characteristics of the wing, the horizontal stabilizer/elevator airfoil and the airframe geometry resulted in the "pitch control diagram" shown in Figure 1, which shows where the cg would have to be to balance out the torque of the airfoil system at different elevator angle settings and different airspeeds. For example, at 40 mph flying speed with 0° elevator angle the cg would have to be at 22% chord to balance out the torque. At 70 mph with the cg at 22% the elevator angle would have to by plus 10° (forward stick). For ample margins of pitch control over the whole speed range the cg of the loaded glider needs to be in the range of 20–45%.

The first flight tests were flown

with the cg at 30%, at a wing loading of about 3.9 lbs./sq.ft.; later ones at 35% and about 3.7 lbs. The behavior of the glider in flight proved this "pitch control diagram" about right, as there was adequate pitch control for all airspeeds and in all modes of flight, including full split flap deployment.

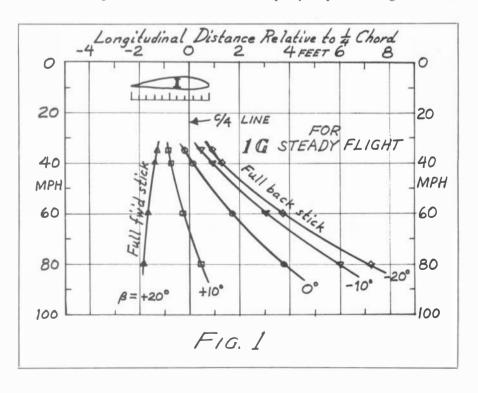
The instruments used in the flight tests consisted of a new Winter airspeed (0–120 mph); a new 0–20,000 altimeter; stopwatch; and a portable tape recorder for voice recording of inflight data. Other instruments aboard were a Ball variometer, a magnetic compass and a Radair 10 radio.

The pitot opening was at the fuselage nose at the center of the inlet opening to the cockpit vent system. The statics were on the sides of a quarter-inch tube projecting about one foot forward from the leading edge of the vertical stabilizer, near the top in a region of undisturbed air. No special calibrations of any of the ship's airspeed instrumentation were made. With favorable pitot and static openings and new factory-calibrated instruments, the readings were expected to be correct within about 2 per cent.

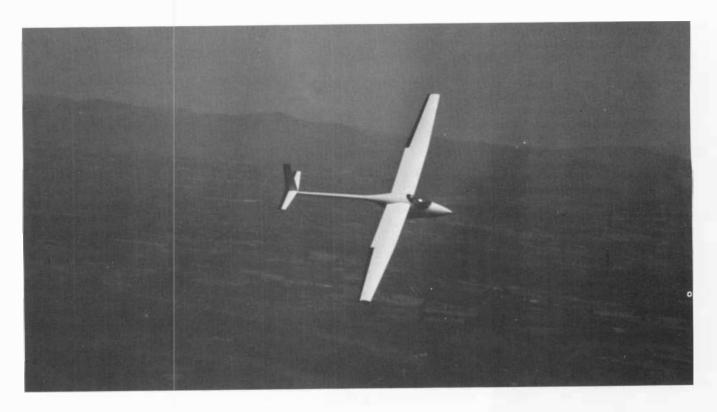
Equally important as good instru-

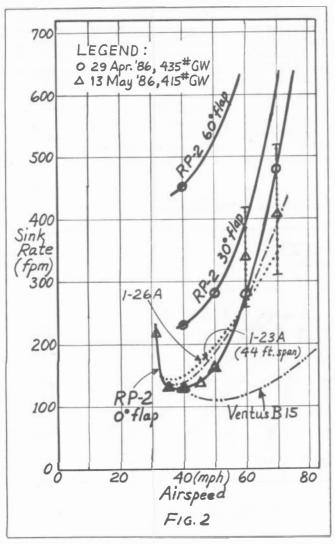


This year from late April through June the glider has been given quantitative flight tests by the author to determine its flight performance, using procedures similar to those employed by Dick Johnson, America's "professional glider performance evaluator." In these tests the wheel fairing was in place and the flaps were operable. The original (undersized) rudder was still in place. This article reports the results of the flight tests, plus general observations gathered while flying the ship for a number of hours under soaring



November 1986 27





mentation was the selection of airmass conditions with near-zero convection and turbulence. Such condition are most probable in early morning during stable weather. Three early morning flights were accomplished, on April 28 and 29 and May 13.

Once the desired airspeed was established, the stopwatch was started and time, speed and altitude were read into the voice recorder, then time and altitude were called out every 15 seconds for periods of 60 to 90 seconds. This procedure was carried out at different airspeeds from imminent stall up to 70 mph. After the flights the voice recordings were played back, the data transcribed, then for each speed the altitude was plotted against time. Ideally these plots would define straight lines, the slope of which would be the sink rate.

The results of the tests on the RP-2 are summarized graphically in **Figure 2**, compared with published data for the Schweizer 1-26A, the original Schweizer 1-23 (which has the same wingspan as the RP-2), and the modern *Ventus* B15. It is clear that the RP-2 has a better sink rate than the 1-26A and 1-23 in the speed range of 35–58 mph; above that it is worse than either of the Schweizers. It is obvious that the *Ventus* B15 is in a different class—

Top of page: the RP-2 on a test flight, June 9, 1986, piloted by the author. Photo by Philip Bryan.

especially in regard to low sink rate at higher speeds. However, when it came to climbing in thermals, none of the other ships in the area, including the more modern ones, could outclimb the RP-2 because of its combination of low sink rate and low thermaling flight speed. The curves corresponding to 30° and 60° split flap deployment show the effectiveness of the flaps as airbrakes.

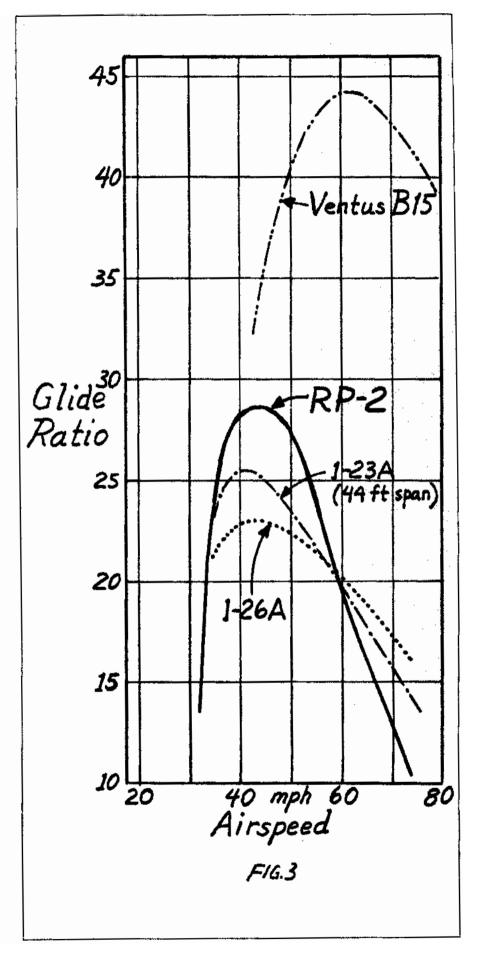
The glide ratios derived from the sink rate versus flight speed data are presented in **Figure 3**. The maximum glide ratio is nearly 29 at 45 mph and remains over 25 in the entire 35–55 mph speed range. It is unusual to have a new design meet or exceed the "paper" forecast of glide ratio, but the quantitative flight data in this case show it to have happened. This happy result speaks well for the accuracy with which the students laid out and fabricated the wings and fuselage of the RP-2.

Some comments should be made in regard to the sink rate numbers for the RP-2 given in the March '86 Soaring article based on the test flight of November 19, 1985-namely 160, 200 and 240 fpm at 35, 40 and 50 mph respectively, as compared to those presented here. The November flight was done at mid-day, without the wheel fairing and with the airspeed static vented to the cockpit. There could have been significant differences in the fuselage drag, the airspeed readings, and the "convectional quality" of the air. The streamlining of the wheel could account for some of the difference, but probably not all.

As of this writing (July '86) the RP-2 has had 13 flights—three by auto tow, eight by aero tow, and two by winch tow—for a total of 11½ hours flight time. Five flights were made during thermal soaring conditions during which altitude up to cloud base—5900' AGL—were attained, and over over 100 miles of cross-country excursions accomplished.

Obviously the RP-2 is not a speed racing machine, but it is an excellent soaring sailplane, comfortable and fun to fly for a pilot of the author's size and weight, capable of being launched by any of the ordinary methods, and capable of precision landings in small spaces thanks to the split flaps.

The RP-2 sailplane project can certainly be rated as very successful, and proper credit belongs to the designer, Steve Winckler; to the Composite Materials Shop Superintendent, Volker Paedelt; to the dozens of RPI students who helped in the many aspects of its fabrication and static testing; and to NASA/AFOSR for financial support.

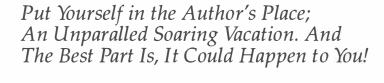


29

# THE 1986 BARRON SOAI



# HILTON ING CAMP





magine that you could have anything you wanted. Just for a moment, forget about having to save up for things. Most of us have had an idle thought or two along those lines at one time or another. But really let yourself go and try to think of what you'd do next if it actually happend to you. Sure, you'd pay off the mortgage, see Europe, buy a Ferrari. So would I, but what fun are those kind of things after awhile? Probably a lot to most Joes but, since you are reading this magazine, you qualify as a special kind of hard case. One who drags a perfectly good wife and family off to stay in a fleabag motel close to an airport (and the end of the Earth). One who puts off the entreaties of long ignored friends asking to visit on summer weekend afternoons with a casual "Oh, well if its raining, sure!". One who paces the floor all winter long waiting to catch sight of Spring's first cu and who times the growing length of the days with a stopwatch.

Lets face it boys and girls, you'd go soaring. But, since we're talking resources, you'd do it right! The best of locations, for instance. Someplace high and dry with mega sunshine. Breathtaking vistas of high snow capped mountains, broad plains and robin's egg blue lakes. Lift so good that

you wouldn't consider stopping to turn unless the needles disappear. Every form of up you could think of, and in copius quantities—ridge, thermal and record breaking wave. Someplace out of the way of airspace restrictions or traffic.

Equipment? Nothing but the best of course. A *Nimbus* 3 and an ASW-22 for long legs. An LS-6 and a '20 or two for nimble racing. A pair of Januses, one short wing and one long wing so that you wouldn't have to fool around with wingtip extensions when the moment was ripe for two place records. You'd probably throw in an assortment of standard class ships and lower performance two-seaters for variety and for rides. And, of course, nothing but power when it came to towplanes, probably at least Pawnee class.

To round out this little daydream of ours, you couldn't forget ground accomodations. These would have to include a spacious main lodge with all the comforts despite its remote location, including pool, tennis court, skeet and trap shooting range, acres and acres of lush riverbank terrain good for trout fishing, bird hunting and horseback riding. Why not a full staff to take care of dining, housekeeping and (lest we forget) bartending chores? Naturally you would want

plenty of comfortable bunkhouse space for all the buddies you might want to invite along to this little paradise on earth of ours.

Stop, you say? It just ain't ever gonna get this good you say? Well, guess again. The Flying M Ranch, owned by Barron Hilton of Hilton Hotel fame, is all of the above and more. The best part is that Hilton, who genuinely loves all forms of aviation and is crazy about soaring, is kind enough to share his passion for a week each summer with soaring pilots invited from all over the world. As most of you know from having watched "The Quiet Challange", Barron and Helmut Reichmann cooked up a worldwide fly-it-when-you-want-to cross-country competition aimed at selecting a handful of pilots to join him and partake of the splendor of soaring western Nevada. The odd celebrity, SSA Director, and World Champ get to horn in on the action too, making for a group of some twenty pilots, crew and soaring enthusiasts who come together in this celebration of our sport. As you might imagine, calling the experience fabulous sounds like the grossest sort of understatement. The only bad part about the whole week is that you have to leave at the end no matter how much you beg to stay. The moment the limo arrived at the baggage claim to whisk us to the Las Vegas Hilton, I suspected I was going to like this. Martha and I were a day late, thus missed the trip aboard the Lady Hilton on Lake Mead, as well as the dinner and floor

show that followed. Our fellow Hilton Cupers gave both rave reviews. One good nights sleep later, it was time for the main event; off to the Ranch. All doubt about our choice of a vacation spot evaporated as our fleet battle group of four limos drove back out to the airport for the one hour flight. Without so much as slowing down, we motored on to the tarmac and up to the doors our two corporate jets. Three steps out the limo door and Team Jacobs was aboard a Falcon, along with Wally and Boots Scott and Helmut's family. It's the only way to go, believe me.

The ranch itself is located on a mere 450,000 acres in western Nevada, about 50 miles southeast of Minden. To the east is Mount Grant, rising twelve thousand feet into the incredibly blue western sky. To the south and west is Mono Lake, bordered by north-south runs of the High Sierra, still covered with plenty of snow in July. Further south is the hundred mile run of the legendary White Mountains with Bishop as a way station.. To the north is Reno, with Air Sailing and Stead beyond. In between is some of the best soaring country on earth. Some guys really know how to pick out a place to go flying. Barron Hilton was on hand that evening to make the award presentations in a very impressive ceremony. In doing so he had a bit of help from Alan Shepard who spent the weekend flying with us. To our astonishment, we heard that over 3000 people had flown for the cup worldwide. The popularity of this form of competition grows and grows. Former Cup winners and invitees read like a list of Who's Who in worldwide soaring. This years list were:

Open Class: Klaus Wedekind, West Germany, ASW-20 CL, 806.2 kilometers

15 Meter Class: Arthur Steiner, West Germany, ASW-20 L, 822.3 kilometers Standard Class: Peter Fischer, West Germany, 740 kilometers

Sports Class: Gerhard Kunerth, West Germany, KA 8 b, 492.1 kilometer

Doubleseater Class: Adolf Rossol, West Germany, Janus C, 621 kilometers

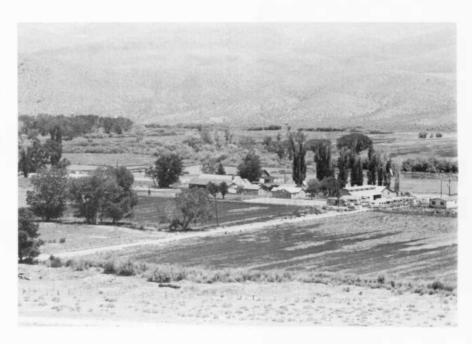
North American: Wally Scott, ASW-20, 540 miles

Also along was Leonardo Brigliadori, Standard Class winner in Rieti. Each winner and guest received his award along with a warm welcome by Hilton to the Flying M.

A pleasant surprise was the lack of pressure to do record flying. Both Barron and Helmut made it very clear that we were welcomed to the Ranch as a reward, and we could fly or rest and relax as we saw fit. Naturally, all the necessary equipment was there to try for records if anyone so desired, including a full weather briefing each day, but the point of it all was simply to enjoy ourselves. Given the accomodations, it would have been hard to do otherwise. In this atmosphere, strong camraderie quickly developed between all participants, whether or not

Below, the flightline readied for the day's activities. Right, the Hilton Ranch, a nice place to relax after a hard day's flying!





we could understand one another's language. Despite the temptations of pool and trout stream, everyone wanted to get into the air as soon as possible. Sailplanes were divided up each day by random drawing. As luck would have it, there were no hard core Open pilots and I got to fly the *Nimbus* 3 practically every day. Kind of like being forced into dates with Playboy bunnies—tough work but somebody has to do it.

While a number of record attempts were planned during the week, the weather didn't really cooperate. Not that it was weak, more that it was too strong. Moist air was being fed Nevada's way by something or other, and it led to some of the most spectacular thunderstorms this New England boy has ever seen. Buildups well above twenty thousand feet were regularly occuring before noon, and by mid-afternoon, cu-nims were in full force in most quadrants. While it lasted, the lift was staggering, often rocketing pilot and fully ballasted supership aloft at ten to fifteen knots. However, the random appearance of these babies out on the intended course line was more than enough incentive to instantly convince you to pick a new course line. After the third straight day of drenching rains at the field, during a time of year when it usually never rains at all, Barron christened his holdings the "Floating M Ranch". Thus, for most of the middle of the week, we had to content ourselves with local or short cross-country flying. Even so, this country is so impressive that the German pilots dominated 123.3 with squeals of delight the first day or two, so much so that some local Nevada type was heard to beg for quiet in his best high school German. In between there were hops in the helicoptor, gawks at Hilton's beautifully restored Beech Staggerwing, and rides in the hot air balloon before breakfast to keep us enjoying ourselves. Throughout, Barron was the epitome of the gracious host, making sure that we were having a good time and, I dearly hope, having a good one himself.

Some good distance flights did occur, including a 1000k by your correspondent. I'm sure I made it only because the terror of an outlanding during my third flight in the *Nimbus* was far too horrible to contemplate. A champagne drenching, courtesy of Barron Hilton, and an unplanned dip in the pool, courtesy of Helmut and Hannes Linke, was my reward It was such a delight that I almost got over having forgotten to turn on the barograph. Far more impressive was the last day's flight when three 1000k's

Host Barron Hilton does the honors, dousing the author with champagne after finish of his 1000k flight.

were flown, all by German pilots. In addition to the Nimbus earning yet another stripe with Wedekind aboard, both Peter Fisher in an unballasted *Pegase* and, if you can believe it, Helmut in the Twin Grob made it around. This was great luck, in that the group had actually been scheduled to leave the previous day. In his wisdom, Barron had decided to extend because the weather was on an improving trend.

Sadly, the week came to an end and we had to return, albeit reluctantly, to the real world. The experience of having enjoyed the company of these pilots and this great host will remain. All of us in the sport of soaring owe Barron Hilton a great debt for his constant support. Hopefully it will convince even more pilots to fly for the Cup this summer and the next, including a few of you readers. It really is worth trying to win a visit to the ranch. Because no matter how good your imagination is, it is even more fun than that.



# THE BARRON HILTON CUP More than a Sports Promotion

Although Barron Hilton's name is the one most frequently associated with the Cup, it is important to realize that two major U.S. corporations support the activities of The Barron Hilton Cup. Both Trans World Airlines and Hilton Hotels Corporation support The Hilton Cup. Their assistance is given to the Cup in the spirit of supporting sportsmanlike competition at the grassroots level throughout the world. TWA and Hilton Hotels are to be commended for their support of the newest Olympic sport.

During the last five years over 10,000 separate applications have been made for The Barron Hilton Cup. This fact alone has made the Hilton Cup the most popular soaring competition in the world.

What makes the Hilton Cup different from other soaring competitions?

The answer can be found if you look at the format of the event. Most soaring competitions are held on specific days and pit pilots against each other in head to head competition. The Hilton Cup is designed as an individual competition . . . pilot, ship, and weather all working in concert.

All applicants for the Hilton Cup are required to fly a completed 28% distance triangle (no side of the triangle may be less than 28% of the total distance of the course). There the similarities end. Each pilot is allowed to fly the ship of his or her choosing (different ships are assigned handicap factors to even their performance). Each pilot is allowed to choose the day of flight. Each pilot is allowed to choose the course to be flown. Competition is held in Open, 15 Meter, Standard and Double Seater Classes. Winners of the Cup are the pilots who have flown the longest triangles. The Barron Hilton Cup is truly an individual competition.

Stories about The Hilton Cup have tended to concentrate on the Flying M Ranch, home of the annual Hilton Cup Celebration. But the week long activities at the ranch are simply the reward for winning The Hilton Cup. Sometimes lost in this story of a week long fantasy of a gliderfield with not only running water, but good food, high performance gliders, and the occasional movie star (remember John Denver and "The Quiet Challenge"?) is the fact that the winners of the Hilton Cup tend to be the same pilots we all see on the weekends.

The Barron Hilton Cup is indeed a competition for everyone. Other than desire and opportunity there are no special entrance requirements.

November 1986 33

miles to Brownfield, Plains and return. Dave Caron was first in his Discus A at 67.3 mph with Phil Ecklund second and Lee Kuhlke third.

On Day Two the Sports Class went 136 miles to Morton, Tatum and return. George Nash took first in his Ventus B, Tom Kennedy was second and Ned Wilson's third place finish kept him in first place overall.

The Standard Class went 181.8 miles to Lovington, Plains and return to Littlefield. Claud Gilmer was first at 60.7 mph in his Discus B, Bill St. Clair was second and Tonk Mills came in third. Dave Caron was fourth to hang onto first overall.

The 15-Meter Class task was a fourcorner to Tatum, Hobbs, Denver City and return for 199.4 miles. Jim Cox won the day and vaulted into first place with a speed of 76.2 mph in his LS-3. Darrel Watson was second and John Seaborn a close third.

Day Three saw a 147.8 mile task for the Sports Class to Plains, Seagraves and return. Cliff Richards won first with a handicapped speed of 60.3 mph in his PIK 20B, Ned Wilson took second to maintain his hold on first overall and Arch Lamb came in third.

The 15-Meter task was downwind to Hereford, upwind to Plains and return for a grand total of 236 miles. John Seaborn won first in his Ventus B with a speed of 71.5 mph, Darrel Watson took second and Steve Nichols was third. Overall, at this point Darrel Watson had 2874 points and Jim Cox and John Seaborn were tied for second

with 2871 points. Talk about close! The Standard Class task of 196.5 miles was to Muleshoe, Caprock Station and return. Tonk Mills showed his winning ways by taking the day with a speed of 70.2 mph in his Discus and jumped into first place overall. Claud Gilmer was second to leapfrog into third place and Dave Caron was third and dropped to second overall.



Region 10 West Sports Class winners, left to right: 3rd, Arch Lamb; 2nd, George Nash; 1st, Ned Wilson.

Day Four turned out a bit differently. When John Schmitz, our fearless forecaster, was asked what time the cu's would form, he replied, "There won't be any." He was right for the next two days: just blue thermals. The Sports Class task of 147.5 miles was to crossroads, Tatum and return. The team of Benz Tschannen/Victor Creazzi (Benz was flying) won the day with a speed of 54.2 mph in their Standard Cirrus, Ned Wilson took second to hold on to first overall and Arch Lamb was consistent with another third place finish. Harry Brown in his Centrair ended up at Amarillo International Airport about 160 miles northeast of Crossroads, and was good sport enough to tell us all about it at the pilot's meeting the next day.

The Standard Class went 205.5 miles to Muleshoe, Lovington and re-

turn. Tonk Mills again won first place and maintained his grasp on first overall with a speed of 56.3 mph. Claud Gilmer was second and moved into second place overall. Lee Kuhlke won third and Dave Caron dropped to third place overall.

The 15-Meter task was another great one of 231.6 miles to Portales, Lovington and Littlefield. Art Pasquali won the day in his AS-W 20C with the fasted speed of the contest at 81.2 mph. Jim Cox finished second to move back into first place overall and Mike Newgard made his appearance in third

On Day Five the Sports task was 127.8 miles to Tahoka, Levelland and return. The team of Tschannen/ Creazzi (with Creazzi flying) again won first with a speed of 67.5 mph, Arch Lamb was only 25 points behind in his Pilatus B4 and Ned Wilson was third.

the 15-Meter task was Plains, Seminole and return for 181.9 miles. Tom Ruwitch won first with a speed of 63.5 mph in his Ventus B; Bob Barber and Art Pasquali were tied for second.

The Standard Class task was Post, Tahoka and Littlefield for 167.3 miles. Tonk Mills won the task for the third consecutive time, Bill St. Clair was second and Claud Gilmer third.

At the awards banquet on Saturday night, stunning ceramic gulls mounted on walnut bases were presented to the top three pilots in each class. Dorothy Birkelbach crafted these trophies for each pilot. Engraved brass plates carried the class, place and the year.



FLIGHT INSTRUMENTATION

1784 Curtner Avenue San Jose, CA 95124 (408) 264-0280





### ALTITUDE DERIVATIVE VARIOMETER

 $\pm$  12 knots range. % second time constant. No external capacity required. Magnetically shielded meter. RF shielded circuitry. Requires 14 V, nom. Temperature compensated 0 - 140° F. Rugged connector - lock ring & strain relief. 48 hours burn in at 140° F. Standard 80 mm case fits 3 1/8 hole. Captive mounting nuts. 12 months warranty.

### AUDIO UNIT

Powered from vario. Response over 2X vario climb range to facilitate centering in strong thermals. Ticks 0 - 700 pps; unobtrusive yet clearly audible. Adjustable threshold and volume. Locking connector & strain relief. In-flight adjustable sink rate alarm option available.

### SPEED MONITOR

Signals when airspeed reaches front panel adjustable upper and/or lower limit. Calibrated from 20 - 120 knots or mph. Captive mounting nuts.

DESIGN CONSULTATION AND PRODUCTION



34

TI	he Top Five	
Sta	andard Class	
1. Tonk Mills	Discus	4865
2. Claud Gilmer	Discus B	4679
3. Dave Caron	Discus A	463
4. Bill St. Clair	Discus B	4504
5. Lee Kuhlke	LS-4a	4431
15-	Meter Class	
1. Jim Cox	LS-3	4771
2. John Seaborn	Ventus B	4680
3. Art Pasquali	AS-W 20C	4569
4. Carson Gilmer	AS-W 20	4567
5. Darrel Watson	LS-3	4537
S	ports Class	

1. Ned Wilson 2. George Nash	LP-15 Nugget Ventus B	4761 4534
3. Arch Lamb	Pilatus B4	3812
4. Tschannen/Creazzi	Std. Cirrus	3771
5. Cliff Richards	PIK 20B	3652

In the Sports Class, Ned Wilson was first, George Nash was second, and Arch Lamb, member of the Caprock Soaring Club who was coerced by his friends into flying in the contest, took home the third place trophy. In the Standard Class, Tonk Mills was first, Claud Gilmer was second and Dave Caron third. In the hotly-contested 15-Meter Class, Jim Cox was the first-place winner, with John Seaborn in second and Art Pasquali in third.

For his most outstanding flight on Day Four, Art Pasquali won the Bob Barber Trophy. Tonk Mills, as the pilot with the highest cumulative score overall, was awarded the James L. Le-Sueur Memorial Trophy. This trophy, awarded by the Kansas Soaring Association, appropriately went back to Wichita, Kansas with a proud Tonk Mills.

Contest Manager Red Rivers thanked the pilots, the crews, the members of the sponsoring Caprock Soaring Club, Shirley and Jim Crisp for again allowing us to use their hangar for our activities, and the volunteers from Littlefield who helped make the contest another Region 10 success.

—OLIVER RAMSEY

### **IN MEMORIAM**

Gustav Scheurer 1899-1985

A soaring pilot who in his lifetime was a witness to, and participated in, the development of motorless flight. Working with the pioneers of his native Germany, Gus and his friend Helmut Schneider formed a club to design, build, and fly their own air-

craft in 1920. Together they created the first glider trailer, using steel-rimmed wagon wheels. Previous transport had been by rail and ox cart. Gus earned his wings in 1923 and was granted Glider Pilot Certificate No. 55. He spent some time working with Wolf Hirth at the Rhon, forming a lifetime friendship.

Coming to the United States in 1925, Gus continued the building of gliders, attracting others with this interest in New Jersey and the northeastern USA, leading to his founding of the Aero Club Albatross, which has been continuously active from 1929 to this day.

Using information from Germany he designed and built the first glider launching winch to be used in the United States, constructed from Ford Model "T" components. This was demonstrated at Elmira in the summer of 1933. The Aero Club Albatross hosted the New Jersey Competitions each summer in the early 1930's, drawing as many as 10,000 spectators to their flying field at Liberty Corners, in central New Jersey.

Participating in the organization of the Soaring Society of America, Gus, then an American citizen, received

(Continued on page 36)



OXYSAVER™ CANNULAS and SIERRA SK 24901 MASK

precisely and consistantly deliver the low flow levels required for the Oxysaver<sup>TM</sup>

\*ONLY AEROX Regulators accurately,

conserving cannulas.

# AEROX® CONSTANT FLOW OXYGEN REGULATOR\*

AEROX Regulators accurately, precisely and consistantly deliver the amount of oxygen for which they are set, because they are piston rather than diaphram type.

The AEROX Regulator is two mechanisms in one instrument. First, there is the pressure reduction portion where tank pressure is reduced to working pressure. Second, the oxygen, at working pressure, is directed to one of up to 8 orifices, each releasing a specific and unvarying flow.

- Excellent Bottle Head Mount for LS, Schleicher, Pegasus, D.G.
- Panel Mount also easily adaptable for Schempp-Hirth and Grob
- Laser cut discs control flow rate instead of old diaphrams, which need constant replacement
- Flow Rate Selection labeled in thousands of feet
- No periodic maintenance necessary

## EASTERN SAILPLANE

(413) 625-6117 John Murray Heath Stage Rt., Shelburne Falls, Ma 01370

"ONE STOP" for all your soaring needs.

BUSINESS

SSA Membership Certificate No. 28, signed by Warren I. Eaton, the first president. This was one of his proudest possessions. Besides being a charter member of the Society, he served as a Director in 1937–38. He qualified as an instructor for the Army Air Corps in 1942, but his employment in industry (Westinghouse) was essential so he could not be released to the Army.

Gus remained active as President of the Aero Club Albatross until the 1960's. He built a *Cherokee* sailplane, and restored or maintained the club aircraft. Upon retirement he devoted his time to the rebuilding of early gliders for the National Soaring Museum. You can see his work there in the Chanute-Herring-Arnot hang glider; a 1929 Dagling (which he test flew), the first glider built and flown by high school students in Elmira, one of whom was Floyd Sweet; and a Schweizer 1-19, once owned by ACA.

Gus Scheurer was installed in the U.S. Soaring Hall of Fame in 1975, and received the FAI Tissander Diploma in 1979. He was active in the first two Homebuilders Symposia. The Soaring Society honored him at its convention in Reno in 1983 by awarding him the Warren E. Eaton Memorial Trophy for 1982, the year the Society celebrated its 50th anniversary.

Remaining active as a pilot into the 1970's, Gus until his passing would join the club as "copilot" whenever possible. His last outing was at the Hall of Fame weekend at Harris Hill, Elmira, and the National Soaring Museum program on Memorial Day, 1986. Accompanied by his son, a grandchild, and his wife Berta, together with many friends, he enjoyed the proceedings and the company of the soaring fraternity. Although on crutches, his step was lively as he relished the activity of the flying line and the launch area.

His lifespan encompassed part of two centuries, and he had seen the development of flight, contributed to the advancement of soaring flight, and been a friend of all those he had been involved with. We morn his passing on 25 June 1986. But we take great joy in a life devoted to wings that would enable him and his friends to soar above earth and enjoy the freedom of the skies.

-RAY YOUNG

### REGION SIX SOARING CHAMPIONSHIPS

After a summer of mediocre soaring weather in Michigan, the thermals finally organized for the 15th annual

Region Six Contest at Ionia. We flew six of the first six days, and drove home on a beautiful seventh day—with sun, endless cloud streets, and extremely high winds, thus answering the question: "Hey, bud—what happens if the wind don't quit?"

Fort-six pilots (24 15-Meter, 14 Standard, and 8 Sports) flew in the low-key but well-run contest which the Benz family seems to stage with little effort. (Key word here is "seems.")

Joe Conn again directed the competition, while Bud Pell ran the gate for the third year in a row. Bud informed us that he had a new secret weapon: glasses! (Hmm; no wonder I had those "bad tries" last year!) Late in the week Charlie Spratt put in a cameo appearance on 123.3, just for ol' times sake.

At the mandatory pilot's meeting, water was unanimously voted out: not once during the week were complaints heard about lack of water chores.

SUNDAY—Bob and Sue Spitz (and Tiffany) arrived at 8:50 a.m.—a good nine minutes ahead of schedule! The day's forecast was iffy at best; both 15-Meter and Standard were sent to Hastings and Charlotte (82 miles), with Sports to Hastings and return (48 miles). (Note; 15-Meter and Standard were sent on identical tasks throughout the week.) As we sat on the grid



I.D. your controls and have your flight plan handy. Reusable Data Card records weather/course info, converts km/kts/mtrs/fpm, measures charts.

Sticker, \$4.75 plus 1.95 p&h. Data Card, \$1.50 plus 1.95 p&h. Both for \$6.25 plus 1.95 p&h.

From:



SSA P.O. Box E Hobbs, NM 88241

## 1-26 ASSOCIATION CROSS-COUNTRY SOARING SWEEPSTAKES

The 1-26 Association is proud to announce the revival of the popular Cross-Country Sweepstakes. The event is open to all members of the 1-26 Association at all levels of experience.

No entry fee is required, and the rules have been kept to an absolute minimum. Flights must be made in a Schweizer 1-26. Flights may be made in all parts of the country anytime from April 1 to December 31, 1986.

Full details of this exciting event are available in the 1-26 Association newsletter, from Association officers, record keeper, or the Sweepstakes committee.

# 1-26 association

A DIVISION OF THE SOARING SOCIETY OF AMERICA

### 1-26 ASSOCIATION SWEEPSTAKES

Tom Holloran, Chairman 4331 Wales Drive Dayton, OH 45405 Marion C. Cruce P.O. Box 60118 Oklahoma City, OK 7314 under building cirrus, a pair of red-tail hawks put on an impressive display of aerobatics directly overhead: Opening Ceremonies for Region Six! A weak cold front, marked by a long narrow row of cu's, crossed the task area in mid-afternoon, with good lift on the front of the clouds, but zero lift and strong headwinds behind; only eight pilots made it home. (Uncle Joe told us later he's learned the only was to handle competition pilot is to over-call the first day; keeps 'em meek for the rest of the contest.) 15-Meter winner Alberto Negro modestly claimed that he "did almost everything right" in using the leading edge of the front and "a few scrungie things" to achieve 54.3 mph. Duane Eisenbeiss was "surprised by the lack of air" behind the front on the way home, but still made it back for first place in Standard with 52.3 mph in his Discus. Moon Mullens won the day in Sports Class in his AS-W 22, the wings of which almost reached the turnpoint. Moon's victory speech about a bus-driving monkey brought down the hangar. Our Day One exuberance subsided when we learned that Gene Hammond had landed short of the field and totaled his AS-W 20; Gene was lucky to escape with only scratches.

MONDAY— 15-Meter/Standard to Charlotte-Mason (93.5 miles), Sports

to Charlotte and return (62 miles) in weak conditions with Mason under thick cirrus. There were no finishers in 15-Meter/Standard; eleven gliders landed at Grand Ledge after 72 miles of careful group tip-toeing. In 15-Meter, Joe Emons, George Vakkur and Bob Macys each received 1000 points. In Standard Class, two pilots pressed on a few miles past Grand Ledge; Phil Campbell took 1000 points, while Bob Spitz received 982. Only Lach Ohman finished the sports Class task, but received zero points for a no-contest day. Ouch!

TUESDAY—Uncle Joe Conn apologized for yesterday's "dang poor conditions", and congratulated those who were able to make something of so little. We had a complaint from the nearby Ionia penitentiary that the tows were coming too close; it was not clear whether we were disturbing the boys in stir, or the warden suspected an aerial escape attempt.

Weatherman Denny Hodges in Grand Rapids told us, via telephone, that it was "super dry aloft" and there would be "no cu's." As he was talking, small white puffy objects were appearing in the clear blue sky over Ionia. Jerry informed him of same, but Denny stuck by his charts and told Jerry the puffy things were figments of his imagination.

Tasks: 15-Meter/Standard to Lakeview-return (73 miles), Sports to Alma-return (65 miles). But grid time the figments of Jerry's imagination had filled the sky in every direction except the turnpoints, and eventually had bases of 5000 beet, with very good imaginary lift beneath them. All classes had 100% completion, and the day was devalued for both 15-Meter and Standard. Joe Emons took another first place, while Phil Campbell took Standard. Lach Ohman took 1000 points in Sports in his Standard Libelle. By this point in the week, Emons has a solid lead in 15-Meter while five pilots were within 172 points of each other in Standard.

WEDNESDAY— At yesterday's meeting, there had been some backrow second guessing of the task assignments, and at today's meeting Johann Kuhn suggested that in the future the task selection committee be composed of those pilots with the best hindsight: suggestion well received. The weather forecast looked good: trigger of 76, max of 83, lift to 5000 feet. 15-Meter/Standard to Owosso-Marshall (162 miles) with Sports to Owosso-return (95 miles). Those were the longest calls of the week, and the day lived up to them.

(Continued on page 38)



### YOU STILL HAVE TIME . . .

The NIKON Soaring Photo Contest is still accepting submission from amateur photographers. Rules for the contest were published in the August, 1986 issue of *Soaring* Magazine. This is your chance to submit that favorite soaring photo for consideration. NIKON, Inc. is providing outstanding 1st, 2nd and 3rd place prizes. Deadline for submission is December 31, 1986.

## ... SEND THAT SPECIAL PICTURE TODAY AND WIN A NEW NIKON CAMERA!



Phil Campbell took his third win in four days, followed by Peter Mozer and Duane Eisenbeiss in their Disci. Jack Wyman (that's me, folks-and I was surprised as everyone else!) took first in THE Schuemann Libelle with 55.9 mph. (Note to soaring community: the Schuemann Libelle is 18 years old, and still seems competitive with 20's, Venti, and LS-6's-remarkable work by Wil Schuemann!). In my victory speech (who, me?), I offered the plane for sale for \$50,000, and had several offers of checks—but I'm holding out for cash. Lach Ohman took another 1000 points in his Libelle. A good day for Glasflügel!.

THURSDAY—This was the trickiest day of the contest, with suddenly and markedly varying conditions. 15-Meter/Standard were sent to Lakeview-Alma (100 miles); Sports to Alma and back (73 miles). We had booming flying up to Lakeview, then dramatically lowering bases and darkening skies in the 31-mile second leg, with solid overcast at Alma. It was just possible to sneak through Alma, and get back to the good sunny stuff for the run home.

15-Meter winner Emons (again!) finished at 2500 feet with his gear down and drive brakes open. He reported later that he didn't tell the gate he would be high so the rest of us wouldn't know how good it was near the finish. Thanks, Joe!

Standard winner and defending Region Six champion Ted Clausing also employed his tip-toe technique through Alma, followed by a too-high finish. In Sports class, the local 1-35 team of Dick and Duckie McEwen took their first 1000 points ever. Dick told us he got to fly the plane today because he had hay fever and a touch of diarrhea; good incentives to fly fast to get back to the Kleenex and Charmin??

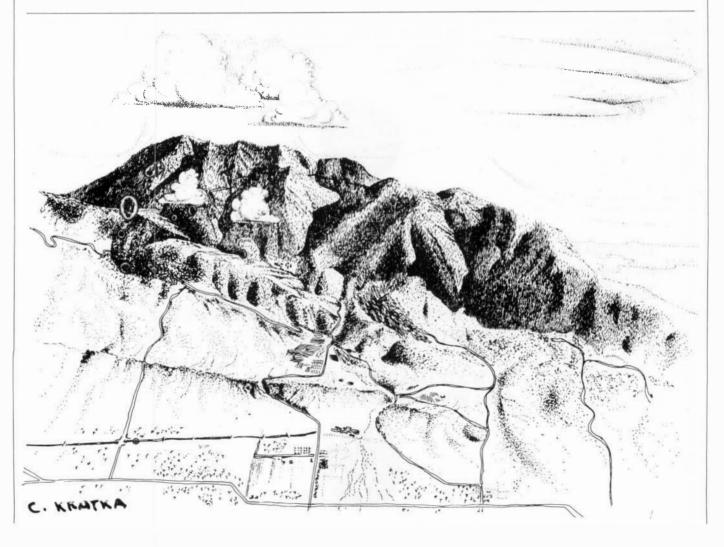
Hilde Kuhn and friends put on their famous Region Six Pig Roast this evening, and of course it was superb. Our standing ovation and chant of "One more year!" was our feeble attempt at thanks!

FRIDAY—An approaching low threatened to cast itself over Michigan, but optimistic tasks were set of Marshall-Mason (125 miles) for 15-Meter/Standard and Charlotte-return (62)

miles) for Sports. As the clouds filled in, the sniffer tried twice but couldn't sustain. Finally the back-up task of Charlotte-return was called for everyone, and the launch began.

The day was hazy, but the lift was decent, and Dick Farleigh led Sports Class with 38.4 mph in his RS-15. Tom Hanson turned in just under 49 mph to take first in Standard, and reported that it felt good to join the ranks of Jack Nicklaus and Willie Shoemaker in this year of the "mature" athlete. Johann Kuhn won 15-Meter with 53.2 mph and followed his own advice that a victory speech should be no longer than the flight itself: his one word speech was "Wow!". Your immodest reporter, in his "mature" Libelle, took second place for the day, and the price jumped to \$60,000.

SATURDAY—After a night of strong thunderstorms, the morning looked hopeless, but the forecast called for clearing skies late in the day. The clearing was, unfortunately, to be accompanied by extremely strong and gusty winds, so the contest was declared over for 1986. Kudos for all the contest personnel—especially Joe



38 SOARING

Conn, Bud Pell, and the Benz family: Jerry mentioned hearing a lot of swearing from son Mike in the computer room and wondered where he'd picked up that kind of language.

Finally, the awarding of the exquisite bronze eagles sculpted by soaring pilot Robert Barber. Moon Mullen took first in Sports Class, and regaled us with his "other" clean story. Close second-place finisher Lach Ohman was, by strange coincidence, the only member of the Task Advisory Committee to call for a seventh day of flying. In standard Class six pilots finished within 350 points of each other, with Phil Campbell finally edging Ted Clausing by 83 points. Joe Emons won 15-Meter by more than 600 points and said if for us all when he thanked the contest organization for the "finest Regional in a long time."

—JACK WYMAN

The Te	n Finn		
The To			
Standard Class			
1. Phil Campbell	LS-4A	4714	
2. Ted Clausing	Pegasus	4631	
3. Pete Mozer	Discus	4589	
4. Duane EisenbeissDiscus	4508		
5. Tom Hanson	LS-4	4403	
15-Mete	r Class		
1. Joe Emons	AS-W 20	4796	
2. George Green	Ventus A	4168	
3. George Vakkur	AS-W 20C	4002	
4. Ken Jacobs	Ventus B	3840	
5. Alberto Negro	AS-W 20	3722	
Sports Class			
1. Moon Mullen	AS-W 22	4391	
2. Lach Ohman	Libelle	4288	
3. Dick Farley	RS-15	3902	
4. McEwen/McEwen	1-35A	3338	
5. Joe Domeier	RS-15	2932	

### **CONTEST NUMBER FEES**

At the SSA Board of Directors Meeting on September 13th of this year, the Board voted to raise the contest number application fee to \$20 and to charge a \$20 fee for all contest number transfer requests. These fees will help defray handling costs and will be effective beginning January 1, 1987.

The current SSA list of contest numbers and the SSA members to whom they are registered is published for your review.

If a contest number registration is contested, please notify the SSA Head-quarters in writing with proof of number assignment (original notification from SSA). Letters should be postmarked not later than December 31, 1986.

05	.Ferguson, Kenneth	CA
1	Schreder, Richard E	OH NC
	.Greenwald, Michael S	
	.Volkober, John A, Jr	
14	.Scheidt, Dennis C	TX
	.Karst, Max	
	Baque, Frank Iii	
16	Le Crone, Lyndal	AL
17	. Fisher, Robert H	CA
18		NY
	Smith, Richard D	
1B	Ridout, Kenneth L	TX
1BA	Averill, Buzz	NM
1C	Riddle, Charles	OR
ICM .	Mc Kinley, Alexander C	MI
	Wasness, Donald S	
1F	Paris, James J	PA
1G	Gill, John E	NY
	Schroeder, Fred W	
	Mc Master, Leonard R	
1JT	. Thompson, Jeannie	CA
1K	Czudnochowsky, Armin A	MI
1L	Loken, Halvar Y	DE
ILA .	Arnold, Larry	NY
1MO	. Jonsson, Anne	IVII
	. Willey, Michael Scott	
	Read, Roderick F	
	. Shatto, Michael L, Sr	
	Dehon, William B, Jr	
1PB	. Baker, Bruce	MD
1R	Burholm, Perry B L	CA
1RT .	Mc Clellan, Robert Trigg	CA
	Aldott, Sandor	
1U	Mc Grath, Harry, Jr	NM
1V	Herold, Carl D	NV
1W	Griffith, M Sherman	. TX
	Findley, Joe	
	. Lewis, James T	
1Y	Zauner, Otto	NJ
	Parks, K A	
	Smith, Andrew J	
20B .	Rav. Ralph	CA
20C .	Jones, Bill T	CA
21	Le Crone, Roy	AL
22	Emons, J F	IL
23		CO
	Young, Dennis N	
25	Franklin, Charles H	MI
	. Aull, Louis	
	Mac Donald, James D	
	. Black, Steve	
2B	Grumstrup, Bruce F	IA
	. Letteer, Lyle E, Jr	
	Orrick, James L	
	Welch, Elvin C	
2G	Seim, Thomas A	WA
	Hopkins, Garland J	
	Halverson, Henry L	
21	Lauderback, Lee C	FI.
	. Andrews, S Blair Iii	
2N	Cauthen, James C	NC
	Smith, Pendleton	
	Russell, Stanley K	
	. Smith, Peter W	
2T	Haan, Robert A	OR
	Andrews, David	
2V	Sortwell, Fred	CO
	Leonard, Robert D	
	Caron, David	
2Y	Winkel, David	IN
	Brittingham, John M	
	Byrd, John M	
J	and, caror by it	

32	.Kuhn, Johann G	.MI
	.Pakosta, Fred P, Sr	
	.Wolfe, James R	
36	.Hudson, Garey E .Lawrence, David L	.NJ
38	.Gilmer, Claud	TY
	Gilmer, Carson	
	Nichols, Steve	
	.Massoth, Thomas	
	Owensby, Joseph E	
3B3	.Patterson, William P	.co
3C	.Knight, Stuart G	.GA
	.Hume, Alfred S, Sr	
	Stuart, R Jack	
3F	.Widinski, Robert	.CA
3G	Gudgel, Daniel R Hughes, Arthur C	CA
3I	Joyner, Powell A	GA
	.Pawley, Douglas A	
	.Miller, Gus S, Jr	
	Beck, Lawrence	
3M	.Davis. Tom C	.WA
3N	Bernatz, Thomas H	.CA
3P	.Dandridge, Peter F	MA
	.Walters, Richard F	
3S	.Gosch, Eric	CA
3T	.Blankenship, Terry L	TX
	.Nethercutt, Robert	
3V	Robinson, G Tupper	CA
	.Dickinson, Daniel S Iii	
3X	.Keim, Tom	NY
3Y	.Hilgert, Ray B	VA
3Z	.Hmurcik, John M	
	.Detz, George L	
40	.Cawby, Walter N	FI.
42	Freedy Alan L	II.
	.Bassett, Greg	
45	.Hupe, Robert F	IL
46	.Kilbourne, Edwin M	SC
47	.Williamson, Frank, Jr	FL
48	.Horvath, Laszlo	AZ
49	.Philbrick, Patrick W	NV
4A	.Newman, John W	CA
4B	.Thomson, Brian C	CA
4C	Newman, John W Thomson, Brian C Hammond, John Damron, Houston A	OR
4D	.Damron, Houston A	CA
4E	.Morris, Leon	INV
4C.	Evans, Gary	TX
4H	Landl, Karl	IL
41	.Watson, William	NI
	.Rouse, Bourbon B	
4K	.Moore, Robert Lee	WA
4L	.Morris, Wesley F	AZ
4M	.Mast, Dennis M	CA
	.Cook, Richard M	
	.Dingman, Richard G	
	.Mathey, Auguste S, Jr	
	Reisman, Michael M	
	.Hulls, John R	
4U	.Wuenstel, Harry	CA
	.Cain, James A, Jr	
	.Woten, H Glenn	
4X	Reuland, William B	CA
4Y	.Bentley, Chris H	FL
4Z	.Sager, Richard B	PA
	.Newgard, Peter Michael	
	.Mears, Carleton M, Jr	
	.Myers, Henry W	
53	.Domeier, Joachim	MI
541'	.Duncan, John V	SC
55 56	Lilly, Frank J	GA M∩
58	.Martin, Wm F, Ch Lt Col	iviO
59	.St Louis Soaring Assoc	JL
	.Hollenburg, Richard A	
	.Kuehmeier, Joseph K	
	.Dertham, James W, Jr	
5C	Clark Rolly	GA
5D	.Danieli, Daniel E .Clauser, Richard L .Greenbaum, Joseph, Jr	CA
5F	.Clauser, Richard L	TX
5G	Greenbaum, Joseph, Jr	CA
5H	Jackson, Henry Leslie	AZ
	Giorgi, Gerald R	
	Moos, Robert F	
	Williams, Peter A	
	Halacy, Dan S	
• •	•	
	(Continued on next	page.

5RRhine, James L, Mrs	OK
5S Huddleston, Sam	
5TSummers, Mark	
5W Bagshaw, Malcolm A	CA
5XUphaus, Marvin	AL
5Y Beaver, Gary W	AZ
5ZSerkowski, Tom	CA
6 Bikle, Paul F	CA
60 Thomson, G Angus	IN
61 Coe, A D Ellsworth	
62 Mellinger, B L	
64 Brotherton, William A	
65 Eaton, Ronald E	
66 Linke, Hannes M	CA
67 Briegleb, William G	
68 Briegleb, Ross	
69 Mahony, Lisa	IVIA
B Loenholdt, Juergen P	NIV
6CKaine, Eugene	
6DMoore, Michael J	
6E Arms, Edward R	ΙΔ
6FBaird, John	
6GCoulliette, Roy	
6JMc Kay, Robert M	
6LLewis, David I	
6M Seymour, David E	
6NEdson, David D	
6PAmes Soaring Club	
6RMetz, Edward R	
6S Fahrner, Steven	
6TGordon, Theodore J	
6VHornbrook, Ken	
6XLeffler, Gary A	
6YKuehne, Terry	
6ZBuchanan, R B, Jr	NV
7 Starr, Sterling	CA
71 Zimmerman, Leigh	SC
72 Gradwell, Dean	OR
73 Sheldon, David B, Md	CA
74 Levitin, Herb	
75 Ebner, Fred	
76 Grenoble, William J	PA
77 Pallmer, Paul G	WA
777 Freeman, G W	FL
77HKrause, Robert	
78 Schweizer Aircraft Corp	NY
79 Indrebo, James E	CA
790 Fletcher, Robert W	CI
7AKlemmedson, Robert L	CA
7BBarnes, F Edwin	
7CWatts, Dean G	CA
7EKantz, William E	TV.
7FFly, Samuel E	
7G Savage, Chris R	
7H Kaiser, Gunter E	
7ICavanagh, Michael B	
7KKleinman, David	
7LWood, Lawrence	
7M Howard, David P	
,	114

7N	.Grabowsky, Ted	.DC
7P	.Cleary, William B	.OK
7R	.Bertea, Richard	CA
7T	.Mozer, Rudolf W	.MI
	.Morgan, Michael L	
7U	.Mac Petrie, Douglas	.MI
7V	.Gimmev. H Rav	.CA
7W	Lamont, Douglas	.CA
7X	Gimmey, H Ray Lamont, Douglas Kubly, Jon	.CA
7Y	.Allemann, Rudolph T	.WA
	.Stanzl, Joe	
	.Chicago Glider Club/dec	
	.Sumrall, H. Cassedy Jr	
81	.Ordway, William A	A7
84	Morgan Robert	CA
85	.Morgan, Robert	CA
86	.Mc Cormick, Jerry R	CA
	.Buhl, Walter T	
88	.Edmonds, Robert E	CΔ
	.Indrebo, Rick	
8Δ	Clayton Harry I	KS
8R	.Clayton, Harry L	.K3
8C	.Squires, Patrick K	TY
	.Neighbors, Gary	
	.Baker, Donald J	
8F	Daker, Donald J	.IVIVI
8G	.Brinkmann, William	.CA
8K	.Smith, Robert E	.M5
8K	.Rezmer, Marty	.CA
8S	.Smith, Earl D	.CA
8T	.Norris, James	.CA
8U	Messner, Robert Farnum, David P White, Jeffrey A	.TX
8V	.Farnum, David P	.UT
8W	.White, Jeffrey A	.CT
8X	.Blacksten, J Raul	.CA
8Z	.Allmon, William C, Jr	.NV
9	.Feldbaumer, William C	.PA
90	.Nezgoda, James	N V
93	.Eisenbeiss, Duane	.IL
94	.Bradshaw, Steven L	.CA
	.Howard, Beverly E	
	.Patton, Bruce H	
	.Sullivan, Monty	
99	.Indrebo, E J	.CA
9A	.Clarke, Arnold A	.NC
9B	.Blackburn, Albert W	.VA
9C	.Hearst, William C	.MO
9D	.Brandt, Dick	.CA
9E	.Crane, Stewart M, Maj	.MO
9F	.Feager, Tim	.MO
	.Hunt, Ronald L	
9K	.Kirkbride, Larry A	OH.
	.Hutnick, Michael	
	.Parker, Robert S	
	.Irick, Orcen E	
9SF	.Focht, Stephen	.MD
9U	.Brandt, Terry R	SC
9V	.Casamajor, Gordon H	CA
9W	.Hoverman, William O	CA
/ TT		

9XPixton, David H	PA
9YPreucil, G Alan	NY
9ZBostrom, Philip J	CA
A Cole, David M	VA
A1Gregg, Ronald S	CA
A2Obst, Wolfgang	CA
A3 Greer, Alan B	NY
A4Howe, John G	PA
A5Westerinen, Charles J	CA
A6Buyer, Heinz	CA
A7Acres, Paul N	
A8Seaborn, Walter	CA
AA Metzger, Darvl E	AZ
AAAHutchison, Michael L	IN
AB Mc Grath, Patrick, Jr	WA
ABB Bennett, Alfred B, Ir	CA
ABBBennett, Alfred B, Jr	TX
ACE Alexander, Gilbert W	CA
ADKidd, Glennon	PA
AEWoods, David J	VA
AFWenger, Jerry A	MN
AG Goin R A	II.
AH Smiley James G	VA
AHSmiley, James G	A7
AJBerryman, Allyn R	CA
AJFFisher, Galen D	
AK Ruehle, Kevin A	
ALMortimer, Al	
AMTittle, W Stewart	
ANBarton, John	
APLeon, Gordon	
ARStraschil, Klaus	CA
AS Santilli, Alcide	CA
ATTerrigno, Anthony A	
All Not Coming Foundation	NIM
AUNatl Soaring Foundation	I VIVI
AvIurner, Jenrey A	
	AZ
AWRamsey, A Wharton	VA
AXGaines, June A	VA FL
AXGaines, June A	VA FL CA
AXGaines, June A	VA FL CA KY
AXGaines, June A AXP Pierson, Danny A AY Adams, Gary AZ Fee, James	VA FL CA KY NM
AXGaines, June A AXPPierson, Danny A AYAdams, Gary AZFee, James BBlackburn, Leonard A	VA FL CA KY NM AZ
AX Gaines, June A	VA FL CA KY NM AZ TX
AX	VA FL CA KY NM AZ TX OH
AXGaines, June A AXPPierson, Danny A AYAdams, Gary AZFee, James BBlackburn, Leonard A B1Bratton, Mark P B2Bryan Soaring Club B3Bennett, Jerry W	VA FL CA KY NM AZ TX OH FL
AXGaines, June A AXPPierson, Danny A AYAdams, Gary	VA FL CA KY NM AZ TX OH FL
AX Gaines, June A AXP Pierson, Danny A AY Adams, Gary AZ Fee, James B Blackburn, Leonard A B1 Bratton, Mark P B2 Bryan Soaring Club B3 Bennett, Jerry W B4 Pfeiffer, Ted B5 Campbell, John H	VA FL CA KY NM AZ TX OH FL NY
AX	VA FL CA KY NM AZ TX OH FL NY NJ TN
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6Brown, William T B7Bailey, H T	VA FL CA KY NM AZ TX OH FL NY NJ TN
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1Bratton, Mark P B2Bryan Soaring Club B3Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6Brown, William T B7Bailey, H T B8Youngren, Harold	VA FL CA KY NM AZ TX OH FL NY NJ TN TX
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6Brown, William T B7Bailey, H T B8Youngren, Harold B9Gassie, John R	VA FL CA KY NM AZ TX OH FL NY NJ TN TX CA FL
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James . BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6 . Brown, William T B7 . Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A	VA FL CA KY NM AZ TX OH FL NY TN TX TX CA
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6 . Brown, William T B7Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A BBBridges, Bobby L	VA FL CA KY NM AZ TX OH FL NY TN TX CA FL CA
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6 . Brown, William T B7 . Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A BBBridges, Bobby L BCMc Bride, Duane L	VA FL CA KY NM AZ TX OH FL NY NI TX CA FL CA
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James . BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6 . Brown, William T B7 . Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A BBBridges, Bobby L BCMc Bride, Duane L BDCarter, Bruce R	VA FL CA KY NM AZ TX OH FL NY NJ TN TX CA FL CA
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1 . Bratton, Mark P B2 . Bryan Soaring Club B3 . Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6 . Brown, William T B7 . Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A BBBridges, Bobby L BCMe Bride, Duane L BDCarter, Bruce R BEMarden, Jay W	VA FL CA KY NM AZ OH FL NJ TN TX CA FL CA CA CA
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1Bratton, Mark P B2Bryan Soaring Club B3Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6Brown, William T B7Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A BBBridges, Bobby L BCMc Bride, Duane L BDCarter, Bruce R BEMarden, Jay W BFFitch, Robert	VA FL CA KY NY AZ TX OH FL NY TN TX CA FL CA CA CA
AX	.VA .FL .CA .KY .NM .AZ .OH .FL .NY .NJ .TN .TX .CA .CA .CA .CA .CA
AX	.VA .FL .CA .KY .NM .AZ .OH .FL .NY .NJ .TN .TX .CA .CA .CA .CA .CA
AXGaines, June A AXP . Pierson, Danny A AY . Adams, Gary AZ . Fee, James BBlackburn, Leonard A B1Bratton, Mark P B2Bryan Soaring Club B3Bennett, Jerry W B4Pfeiffer, Ted B5Campbell, John H B6Brown, William T B7Bailey, H T B8Youngren, Harold B9Gassie, John R BAEvans, Thomas A BBBridges, Bobby L BCMc Bride, Duane L BDCarter, Bruce R BEMarden, Jay W BFFitch, Robert	.VA .FL .CA .KYY .NM .AZ .TX .OH .FL .NY .TN .TX .CA .FL .CA .CA .CO .FL .NJ .CA

### TWO BY GREN SEIBELS



TURNPOINTS, the 1985 Lincoln Award winner. "... a feast of the romantic side of flying, in the best tradition of Philip Wills."—Doug Jacobs. Enhanced with fine photographs by George Uvegas. \$20.00 plus \$3.95 p&h.



AFTER ALL (1984), further explorations of the glories and tribulations of the soaring game. Illustrated. \$15.00 plus \$2.95 p&h

SSA, P.O. Box E, Hobbs, NM, 88240. Dealer inquiries invited.

BJ Holden, B J	
BLGreenblatt, Robert	NJ
BM Incorvaia, Frank	FL
BNChandler, Clifton J	
BO Seger Fritz O	CA
BO Seger, Fritz O	CA
BRBriggs, Walter F	
BSBlossom, Forrest W	
BTMozer, Peter	MI
BVKing, Eddie L	AR
BWWillis, B N	FL
BXReich, Bryan W	
BY Sessions, Carl Ed	CA
BZMayeux, N Philip	
CCoira, Peter L	
C1Takallu, Mamad	
C14O'callaghan, Christopher	
C3 Sommer, Karl	.CA
C5Badenoch, Ben W	.CA
C6Faulkner, Norma	
C7Meason, Charles L	
C8Collar, Jim	
C9Carter, John A	
CACollins, Charles A	.NV
CBChase, Robert A	.CA
CCCulwell, Charles W	.TX
CCCClaybourn, Hank	.OK
CD Siroky, Vitek	.WA
CESilverado Soaring, Inc	CA
CFForrester, Charles C	PΔ
CGGyenes, Charlie	
CH Johnson, Donald K	
CJ Hawkins, Curtis E	
CK Snyder, Charles M	.CA
CLEli, Robert W	
CMCrosina, Mario	
CN Mc Cann, Don	.CA
CO Woods, Christopher	
CPBradley, Earl	
CQWebb, Spencer L	M/A
CD Ci Di-I	TV
CRCoggins, David L	. 1 🗡
CS Slover, Calvin J	
CSICypress Soaring, Inc/dec	.CA
CTTouchet, R S	.LA
CUFord, John	.MI
CV Kelley, Thomas A	
CV reney, mondo m	

CW	.Walker, J Calvin	MD
CX	Stockton, William	NY
	.Walker, Charles R	
D	Peerens, E E	NV
D0	Peerens, E E	ID
D1	Smith, Jim	TX
	.Larimore, Stuart B	
	Mills, Tonk	
	Ivans, William S	
	.Danieli, Barry R	
	.Grigsby, Roger L	
	Protheroe, Thomas	
	.Heintzelman, Joel N	
D9	.Carter, Ioe M	.AZ
DA	.Carter, Joe M	.CA
DB	Butler, Richard W	.TN
	.Culpepper, David G	
	.Hildebrand, Robert M	
	.Dorrell, Don	
	.Davis, Don E	
DEE	.Dee, Stephen W, Capt	.MO
DF	.Robinton, Michael A	.CA
	.Gurnett, Donald A	
DG4	.Blacklin, Peter	.MD
DH	.Hutchinson, Harold D	.CA
DI	.Tyler, Allison H, Jr	.SC
DJ	Jacobs, Douglas L	.NY
DΚ	.Chambers, Chuck	.CA
DL	.Loeper, Dietrich F	.AZ
DLA .	.Dezzutti, John P	.CT
	.Bush, Dale L	
DM	.Hoke, Michael J	.NV
DN	.Mc Clure, Rick	.FL
DON .	.Smith, S D	.TX
DP	.Robbins, Dave	.NY
DQ	.Wythe, Richard	.CA
DR	Oreck, Thomas A	.LA
DRT .	.Tauber, Thomas E	.PA
DS	.Deland, Maurice G	.DC
DT	.Duste, Leon	.CA
DU	.Du Pont, Stephen	.CT
DV	.Gray, Douglas G	.CA
DW	.Gray, Douglas G .Dillard, Bob	.TX
DX	.Crossett, Richard M	.NY
	.Cogan, Julian N	
	Routgen Manfred P	

EKaplan, John C	1N
E1Harshbarger, Wayne	Ά
E2Lovell, GlennF	Ι.
E3Belt, J E	
E4Haseltine, Arthur BF	
E5Blair, Robert W	`A
E6Poquette, Raymond W	A
E7Bienenstein, Robert	
E8Estrada, ErnestoF	
E9Trice, James BF	
EAMc Quigg, Andrew RF	T.
EB Refugio Soaring Circle	
EDByars, Edward F	
EERobertson, Jerry D	IZ ND
EEELux, James	JK
EFGibbons, Robert C	X
EGChitty, Thomas CF	
EHEschenberg, Horst H H	1D
EI Iglesias, H E	X
EJWartwell, Jim	
EKFisher, William DT	
ELKasprowicz, KrzysztofV	VA
ELFLincoln, John C İi	
ELI Ingram, Edward L	Ά
EM Mozer, Eric H	C
ENNierich, Konrad	A
ENN Nelson, Erik	C
EOBarbin, Earl	
EPRedwood Instrument Co IncC	
ERRoberson, Edward	Ϋ́
ERBErb, Mark	
ES Stover, Evan R	
ETHowell, Mickey	
EUHall, Douglas	
EVWitcher, Donald H	
EX Jacoby, Ned	
EYDrew, Robert L	
EZOrmsbee, Allen I	1
F Fichtler, A E	٠,
F1Enevoldson, Einar	
F16Ettinger, Robert C	A
F3Croul, John V	A

(Continued on next page)



### CAMBRIDGE MARK 4M NAV/VARIOMETER SYSTEM



- Altitude-Compensated NAV and VARIOMETER
- TE Compensation by TE Probe
- VARIO Readout available in 3 1/8" or 2 1/4"
- Final-Glide and Distance Navigation Computer
- Bug Polars, and Variable Wing-Loading
- Full 4-Function Audio
- Speed Director
- Digital Averager

Standard size vario: \$ 1150. Mini-size vario: \$ 1175.

Cambridge Sailplane has changed its name to

## EASTERN SAILPLANE

(413) 625-6117 John Murray Heath Stage Rt., Shelburne Falls, Ma 01370

### **CAMBRIDGE CAV**

- Internal Audio
- Dual Range
- Dual Damping
- 20 SECOND AVERAGER \$ 365.

"One Stop" for all your soaring needs.

BUSINESS MEMBER

F4Gifford, Daniel O'shea	TX
F5Jacobs, Fred	
F7Nash, George S, Jr	
F8De Stefans, Lance	
F9Harvey, William T	
FA Schwertner, Fred	
FAYEdwards, Fay E	
FB Fernandez, Raymond A	NI
FCCompton, F Burton, Jr	FI.
FDVandiver, J Kim	
FDMCoombs, Alan	
FEFerorelli, Enrico	
FFFulop, Vic	
FGRubus, Gary M	NY
FHHanan, Francis D	
FKKruesi, Frank E, Jr	ID
FKBBaeder, Fritz	D
FLBates, Floyd F	TX
FLY Snyderman, Lyrinda	
FMMc Master, Frank	
FNHunter, Lloyd P	
FOWawrzyniak, Jim	. PA
FOOGobbel, Randy	CA
FPHollis, James F	FL
FRElliott, Paul M, Jr	TX
FS Charlton Randy	MA
FSCharlton, Randy	. NI
FTTaylor, Fred G	TX
FUYates, James E	
FVPainter, William H	
FWCrane, Pamela M	
FXWalker, Dane H, Jr	
FYKonesky, Frank	MA
FZZirkle, Nancy	
G1Meyer, Dieter B	
G2Mid Georgia Soaring Assoc	
G3Sada, Roberto G, Ing	
G4Garcia, Roberto P	
G6Pickett-heaps, J	
G7Warner, Steven W	MI
G8Brown, Rohn A	AZ
G9Mit Soaring Association	
GA Gaines, Robert E	GA
GBRuskiewicz, Jerzy S	NJ
GC Church, George W	FĹ
CD Caddie David	

GE	.Fergus, Robert H	
GF	Steorts, Lee D	.UT
GG	.Allen, George R	.ID
GGG .	.Gardner, Geoffrey	.CA
GH	.Hammond, Eldon Gene	.IL
GI	.Thelen, George J	.CA
GΚ	.Grove, Doris F	.PA
GL	.Miller, James L	.CA
GM	.Munro, Gordon J	.CT
	Ohman, Lachlan	
GO	.Mozer, Norman	.NC
GP	.Gehrlein, Rodney	.PA
GO	.Mc Makin, Roger L	.TX
	Sorenson, Gordon R	
	.Smith, Gifford M	
	.Heater, John N	
	.Scurr, Erica	
GV	.Vakkur, Goerge J	IN
	.Koerner, Steve	
GW5	.Teleski, Stanley	Δ7
	.Durbin, Andrew	
	.Valas, Harry R	
U	Buck, Harold D	
	.Kuhlke, K Lee. Dr	
	.Holland, Hans	
	Lindsey, Lawrence F	
	Harris, Charles	
	.Hoffman, Ross	
	.Casassa, Lewis H	
117 · · ·	.Meyer, Burton C	II.
11/	Beckley-bailey, Holly	TY
шо		.17
П7		.CA
IID		.CA
ПDV .	Bell, Glenn R	.OK
нс		.UK
ни	Nolan, William C	.NV
HE	Franklin, Steve	.FL
	Franke, Herbert	
HG	.Fisher, Charles J, Jr, Md	.CA
	Haynes, James M, Jr	
	Roach, Leo T	
	Miller, Dean O	
	Hinze, Herbert J	
	Slotten, Donald R	
HL	Henderson, David Bruce	.VA

HLBBrown, Harry DHNNutter, Harry A, Jr	.TX
HN Nutter, Harry A, Jr	.MA
HOOOlson, Herb	.CT
HP Mac Farlane, Terry L	.CA
HQHaynes, Victor W	CO
HRBrent, John T, Jr	PΔ
HSHilliker, Stephen E	
HTTrumbull, Thomas A	
HUHubbard, Ward N	
HVEirich, Mary D	
HWWoodruff, Hal	.CA
HX Franklin, Thomas, Jr	.CA
HX Franklin, Thomas, Jr	.WA
HZ Hausner, Robert O	.IL
IWood, Steven B	
I6Moreau, Laurance	.WA
IB Caldwell, Alex	
IDSomers, Dan M	VΔ
IC Foot Stanley F	v.
ICC Illini Clider Clb Inc/dec	CA
IG Foat, Stanley E	IL
II Chilos John C	NII
IIStiles, John C	.141
IKKyle, Malcolm S	
IL Dimentstein, Shmuel	
IMMurdoch, John K	.CA
INNixon, C Dianne	NJ
IOAustin, David W	.CA
IP Packard, Michael	.co
IQGarner, James Kirkland	.CA
IR Hunt, Courtenay	
IS Fodermaier, John J Iii	TX
IT Mockler, Richard T	
IV Fanning David I	NIV
IVFanning, David J	TY
IY Ekdahl, Carl A	
IZ Cole-murray, Jeanne M	MA
J Hutchinson, Judith R	
J1Braslow, Jonathan	
J2 Finch, Gerald D	
J3 Jackson, James R Iii	
J4 Culp, James B	
J5 Dunston, L A, Dusty	ID
I6 Hogue, lames H	GA
J7Campbell, Phil M	MI
J8 Gere, Jonathan	.MD
I9 Downing Farle F Ir	

## TASKMASTER

TASKMASTER is not a toy, nor a game . . . but elegant computer software for task definition and analysis. It is a valuable timesaver and planning tool for the serious cross-country soaring pilot, Contest Directors, and FBO's

Taskmaster remembers the names and locations of up to 100 turnpoints. You may ask Taskmaster to generate cross-country tasks which meet your specifications as to type of course, length, orientation of legs, areas to avoid, etc.

Within seconds, Taskmaster will be listing tasks that meet your requirements.

Taskmaster software runs on any 256k IBM PC/XT/AT or compatible.

**TASKMASTER.....\$49.95** 



by Sprint Systems Ltd. to order: (403) 458-8974

63 Fair Oaks St. Albert Canada T8N 1P9

**VISA WELCOME** 

	.Desmond, William JPA	
JAS	.Personett, Joseph ACC	)
JB	.Bearden, Joseph N Iii NJ	
JBX	Bearden, Joseph N IiiNJ Bixler, James BIL	
JC	.Cox, James WTX	Ĺ
	.Centrair Usa	
JD	.Johnson, Richard HTX	Ĺ
JE	.Elms, James C	Ā
JF	.Elms, James C	0
JG	.Paquette, Richard	Ā
JH	.Karcher, James	L
JJ	.Sinclair, John S	Ā
JK	.Finley, James A, JrAF	ζ
JL	.Gera, Joseph	Ā
JM	.Mansfield, John HOI	H
JN	.Funston, Nelson E	4
	.Luebke, Ralph C	
JOY	.Gaudet, H. Ĝerard, Jr	D
JP	.Payne, James M	A
JQ	.Shaw, Joann	(
JR	.Gravance, John R, Sr	Ā
JRB	.Bobo, James R	(
JRK	.Bobo, James R	
	.Willis, Judith K	
JT	.Wyman, JackMl	
JV	.Van Dyke, Jacob	0
JW	.Walker, Jack A, Jr	
JX	.Sharman, C D, JrFL	
JΥ	.Sharman, C D, JrFL .Wood, Harrison FNJ	
17	Jennings, Wm S	١
K	.Auerbach, Klaus F	4
K1	.Knapp, Wayne	A
K2	.Krueger, W	
K3	.Contreras, Phillip OF	-1
K4	.Krueger, Karl HPA	
K5	.Eddy, Steven C	4
	.Koppana, R. Leonard OI	
	.Mulcahy, Michael	
	.Mid Atlantic Soaring	
	.Van Schoonhoven, Peter	
KB	Seed Bill Ir KS	
KC	Geyman, John P, Dr	4
KD	.Bell, Douglas A	A
KE	.Everson, Kirke B	
	.Harrell, Chip	
	Knauff Thomas I PA	

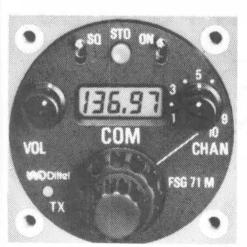
KH	.Barber, Robert E	.CO
	.Gertsen, Kai	
	.Mc Farlane, K J Wildman	
	.Kretschmer, Karl W	
	.Koerner, Ralph J	
	.Cousineau, Kevin	
	.Sorenson, Ken	
	.Nielsen, Klaus W	
KO	.Johnston, Hugh Iii	.PA
KP	.Acee, Moses J	.NY
KQ	.Hollenberg, Randall W	.TX
	.Du Pont, Samuel H, Jr	
KS	.Striedieck, Karl H	.PA
KT	.Cartwright, Christopher	.VT
KU	.Kulesza, George	.AZ
	Grubbs, Kenneth	
	.Kind, William H	
	Rhodes, Burton L	
	.Mc Ewen, Richard W	
	.Kerns, William G	
I	Schroeder, Wayne	TY
	Szalai, Bela F	
	Buchner, Marc	
	.Henning, Charles E, Dr	
	.Lorenz, Alfred M	
	.Mac Nicol, Allan E	
	.Kuenzel, Rainer	
LA	.Burke, Joseph L	.MC
LB	Leffler, Allen L	.CA
LC	.Richmond, Lewis C, Jr	.WV
LD	.Duhaime, Jeffrey S	.CT
LE	. Ferguson, William H Jr	.NV
LF	. Flynn, Lance	.IL
LG	Rogers, William E, Jr	.MD
	Rank, Standlee L	
LI	.Sebald, Leslie E	.CA
	Charchian, Loris J	
	.Edling, Leon K	
	Hines, Karol A	
LLO	Otey, Lloyd L	V/A
	Miller, Lee Eugene	
INI	I a Flour James V	.CA
LIV	La Fleur, James K	.CA
LU	Lawrence 5	.MC
Ll'	Meyer, John J	.CA
	. Stockton, Robert R	
LS	. Soren, Leonid	.IL

LS1Pell, Charles E	MI
LTPaavola, Stephen H	MA
LU Honauer, Joseph S	NJ
LVWhite, Robert T	CA
LW Wing, William R	TN
LXEastern Sailplane	MA
LZVanderhooft, Joluut	MA
M Mc Clung, Marshall	VA
M1 Mayer, Raggon L	TX
M2 Watson, Darrel E	
M3 Mullarky, Patrick L	
M4 Markson, Ralph	MA
M5 Malis, Mike B	
M7 Cohodas, David	
MAAdams, Michael J	
MAX Skovgaard, Max	
MB Anderson, Gunnar	
MCMc Carron, Michael E	
MDBourland, John B, Jr	
ME Watkins, H. Carl	
MGGreen, Michael I	CA
MHSibley, Gerry O	IL
MJTeter, Michael P	NY
MKRiekkinen, Martti	
MLHensel, Bruce	NJ
MMMullen, Wylie H, Jr	IL
MMSSwanson, Michael L	
MNSnyder, John D	FL
MOHanson, Thomas J	MI
MPPiccagli, Mario	
MRWilliams, Ray E	CA
MR2Burns, Raymond T	CA
MS Glass Teck Unlimited	
MTRidenour, Neal	IL
MUHolder, Thomas C	MD
MWWoodruff, Myndy	VT
MXCaldwell, Roger	NM
MYHouse, John H	NJ
MYHouse, John H	CA
N Schmid, Frederic H	TX
N1Nicolai, William S	
N2Weissenbuehler, Heinz	NY
N3 Sampson, Stephen	
N4 Dabolt Laurence I	CA

(Continued on next page)

# NEW GENERATION OF WALTER DITTEL RADIOS

Compact, Light Weight, High Quality, Dependable Performance



VOL COM WOOMM FSG 70

FSG 70

1:1

- Mounts in standard 2 1/4" diameter instrument cutout.
- 5 to 7 Watts transmit, 8 Watt audio power.
- FSG 71 M includes: 10 channel electronic memory.
- Only 25 mA standby current drain.
- Suitable for 12 Volt battery supply.
- Transmit and low voltage warning
- FAA/TSO

Walter Dittel—the only manufacturer offering a choice of memory and non-memory 2 1/4" radios. GERMAN DESIGNED AND BUILT

Cambridge Sailplane has changed its name to

## EASTERN SAILPLANE

**(413) 625-6117** *John Murray* Heath Stage Rt., Shelburne Falls, Ma 01370

BUSINESS

**FSG 71 M** 

N5 Noland, Nelson B
N7 Humphreys, W MichaelMA
N8Kamis, John GIL
NoKainis, joini G
N9Meredith, Allan WCA
NANegro, AlbertoMI
NAT McLaughlin Nathaniel I. CA
NBMc Intyre, Randall PNY
NO Trade of Theorem D
NCTopham, Thomas B
NDMunn, James FCO
NE Kempe, Steven A
NEKempe, Steven ATX NFSmith, Stephen CCA
NGLong, Morgan ACO
NHHanke, GeorgeNY
NIX Stanich, Nick
NIAStatilett, Nick,
NJ Najarian, GeorgeCA
NKKemp, Gary FCA
NLNoyes, DavidOH
NMNicks, Oran WTX
NNRichardson, Lynn E
NP Douglas Soaring Club CA
NPDouglas Soaring ClubCA NRMc Farland, Michael JCA
NRMc rariand, Michael JCA
NS Austin, Norman MKS
NTCannon, Walter BCA
NUMalloy, DavidPA
NWWilson, NedTX
NX Mc Cracken, Roger
NY Wargo, Glenn E
NZ Niedrauer, Jerome J
OHunt, James T <sup>a</sup>
O) Dries Hand
O2Price, Lloyd
OAAlahverdi, OmeedMD
OB Dyer-bennet, Oliver
OD2Cordell, PaulVA
OEFL
OFBartell, WilliamCA
OG Gillmore, Norman D OH
OJPate, E GTN
OK Schat, DanCA
OM Miller Meller E
OMMiller, Wallace E
ONEStark, JonCO
OPCroy, Otto ECA
OR Reed, Omer K
OSBalazs, Joseph I AWA
OTMI
OWChitwood, Ronald AWA
OX Conner, John PFL
OXColuler, John T

OYBuzzard, C. AlanNJ
OZSchirtzinger, Theo DCA
PLinkins, Arthur E IiiNY
P1Galloway, Ray MNC
P2 Spencer, T Guy, JrMA
P3Penkhus, RobertCO
P4Reaman, Karen TNY
P5Vogler, Donald SMA
P6Upchurch, Frank D, JrFL
P8Welles, Gillett IiiNY
P9Pollitt, Geoffrey P
PAStoia, James WSC
PB Stoddard, Philip B
PCGossfeld, Timothy FTN
PDDuhaime, Gary R
PENC
PFWells, William MWA
PGBearden, Mark JVA
PH Kimmell, Edgar W
PI Phillips, Ira, Jr
PKKellas, PaulCA
PLSpitz, Robert WIL
PM Spies, Gerald LFL
PNNewman, L John
PORussell, William MCA
POP Woods, David A
PPThompson, Craig SCO
PRSmith, H Gilly, JrGA
PS Sasse, Paul W
PSAPermian Soaring Assoc JunTX
PTThompson, W Paul, JrCA
PV Hartshorn, J S
PWWilson, Patrick WNM
PXMathews, Walker CTN
PY Jackson, Dillon EWA
PZHinkle, EldenCA
Q Phillips, Raymond A., Jr NY
QBBogie, Walter WPA
QFBrossier, James C
QG Matzek, Michael A
QKReeser, RNV
QPSchurmeier, H MCA
QQ Atwell, Lloyd A
QSPasquali, Armand ACA
QT Godfrey, JohnPA

RStirling, Albert G	TX
R1Cundiff, Roy S	CA
R3Hinote, Bill	CA
R4Aerosmithing	NC
R5Roberts, D Ronald	GA
R7Betts, Larry R	.OH
R8Roberts, Charles R	VA
R9Buchanan, Roger N	NI
RAWingate, Gordon R	
RAFKullman, Duke	CA
RBBuck, Robert O	GA
RCHowell, Harvey L	GΛ ΜΔ
RDDriscoll, Robert W	DA DA
REBrown, Robert E	
REX Stage, Rex M	
REAStage, Rex M	INIV
RFClark, Robin	FL
RG Bard, Roger G	IL
RGACutri, Roc Michael	AZ
RH Hall, Richard N, Jr	co
RI Reeves, J Lane	GA
RJ Jackson, Robert D	PA
RK Kellner, Robert D	
RLSands, James E	CA
RLMMihills, Ronald L	DE
RMMc Intire, J R	WY
RN Dabolt, Christopher G	CA
RNS Stevens, Ross N, Jr	PA
RO Opitz, Michael	CT
RPReplogle, E H	NY
RRRackauskas, Romas	CA
RS Salvo, Robert A	MA
RTTawse, Robert W	OH
RVRedden, Kevin	NI
RWWayt, Robert S	NV
RW1Weien, Robert W	MΔ
RWAAustin, Robert	
RXBookwalter, Daniel H	ᄭᄓ
RYBeals, Brian L	
RZAustin, R E	TV.
SSullivan, Robert J	
S1 Lindenbaum, Stephen	
S2Murray, Douglas	CA
S3 Suddard, Oliver V	DE
S4 Davis, Sumner	
S6 Sjostedt, Rob	CA
S7 Sawdon, Edwin G	MI



S9 Ebersole, Ronald J	.OR
SASveum, Ardean E	.CA
SBGuylas, Joe	HO.
SCWilliamson, Tom	FI
SDDay, Jim	NIM
SE Semans, Robert L	CA
SFFrancis, Samuel A	
SGReichert, Ken L	
SH Usaf Academy	.co
SICoerr, Stanton	
SJ Clausing, Theodore	.WI
SJP Liechti, Peter L	
SKCraig, Stephen J	KS
SKV Craybill John	CA
SKY Graybill, John	CA.
CM Mantage Charles I	.CA
SM Montagne, Stanley J	.CA
SNNorthcraft, Stephen	.WA
SOBrownie, Myron D	.MI
SPShepherd, Joe M	.MO
SQYoder, Cornelia M	.NY
SRFrazier, J Terry	.NC
SRKMurphy, John P	.TN
SSTabery, Ronald S	TX
SSASky Sailing Airport	CA
SSSBarnett, Gary C	CA
STDErickson, Ken	
SUEricson, Sune	wı
SUNPolinsky, A Mitchell	CA
SVRichmond, Richard C	
SW Petryk, David R	.TX
SXMartin, David V	.TX
SYSmith, Sharon R	
SZZimmerman, Sam R Iii	
T1Hearn, John B	
T2Schweninger, Dave	
T3Hamilton, Kenneth G	ME
T38D'angelo, Dennis L	CA
T4Ackerman, J Mark	OR
T5Dysart, Ben W	AZ
T6Coleman, Stephen R	FL
T7Estrada, Ernesto S	
T8Weber, Richard D	PA
T9Olson, Harold	
TAEkker, Donald R	CA
TBBeltz, David J	C/1
IDDeliz, Daviu j	'A

TBBeltz, Tom	.PA
TCCalvert, Phil	A7
TDDunigan, Thomas J	NI
TEElmore, Thomas T Jr	EI .
TEEMichaud, David C	NII
TFFalk, Theodore J	NIV
TGGarnett, Theodore S, Jr	PA
THHall, Richard L	
TI Tiefert, Karl H	
TIAFletcher, Dave F	NM
TJJohnson, Thomas T	OR
TKMc Farlane, William	TN
TKBBest, Tom K	HO
TLLauck, Anthony G	
TMLattimore, Hal M	
TN Kaufman, Gerald	റാ
TNTThomason, R J	
TOMPriestley, R Thomas	CA
TQMiller, Richard	
TRTresslar, Robert R	
TS Smith, Thomas W	IIV
TTSeibels, Grenville Ii	
TTFSchrum, John R	
TUEveleth, Paul L	
TWFinch, Thomas W	
TXPekin, Richard J	CA
TYGrossman, Howard L	NY
UOlson, John J	
U0Fair, Donald R	
U1Ohmart, Walter A, Jr	co
U2 Burk, J Robert, Jr	NH
U4Dye, Dale F	CA
U6Knoetzel, John	
U7Roberts, Gilbert D	
U9Uster, Albert	MD
UBJones, Springer	
UC Jost, Harold R	OH
UDSmith, William T	
UEScarborough, J Kelly, Jr	
UFUtley, Brian G	
UHNixon, Henry M, Jr	
UHNixon, Henry M, Jr	INJ
UJConn, Joe	
UKCumming, Duncan G	
ULHagemeister, G A	
UNEdmonds, Phillip H	
UPMartin, Jim, Capt	ID

US	GGray, Raymond F	МО
	SA Stevens, Gerald A	
TIG	SM . Foote, Howard A	C 4
	ΓZimmermann, Keith	
	UNye, Robert N, Jr	
	WWilliams, Wenmouth	
U	Calad Issue D	Ch
U	Y Calef, Jere R	LA
U	Z Ferguson, Ronald K	WA
V	Imsande, Robert R	CA
V	Ross, Vonard	CA
V:	12 Macys, Robert	IL
	IVLittle, J M	
V		NV
V4	lMerrill, B V	ID
V:	Coroneos, Donald Lee	ΙL
V	6 Boyce, John R	CT
V'	5Boyce, John R	WA
V		CA
	Clark, Roger L	CA
17/	ACarr, Richard J	$\sim$
V2 1/1	BBerle, William M	$c_{\Lambda}$
374	C Geyer, Eberhard	LA
77	CGeyer, Ebernard	MII
	DPisi, Romano	
	EFontenot, Michael L	
V	F Morris, Philip E	GA
V	FRHardenbrook, Christopher	CA
	G Schieman, William D	
V.	HHendershott, Vern J	ΑK
V)	Peres, Victor L	PA
V	Bay Area Soaring Ass'ts	CA
V	K Blackburn, M I	CA
V	KBlackburn, M J LClack, Robert H	ΜI
v	MWhitmore, Charles	MI
	NSpecht, Linda H	CA
	O English, John R	$C\Lambda$
17	D Varan Carbard E	CA
V.	PKnapp, Gerhard F	CA
	R Stevens, Richard S	
	SKramer, Robert E	
V	Γ Bierens, John	MI
	UBeckwith, Ted, Jr	
V	V Adams, Aland B	CO
V	VVSeymour, John C	CT
V	WWilson, John F	CA
V	X Stoner, Ronald C	.WA
	,	

(Continued on next page)



### A Cross-Country Soaring Game/Simulator

Now available for Commodore 64\*

Your introduction to the world of high-performance sailplanes, SKYRACE simulates cross-country soaring flights of up to 225 miles. Combine the real time action of thermal soaring with the strategic tension of cross-country flight planning. From your hangar you may choose from the Nimbus 2, 15-Meter Mosquito, Schweizer 1-26 or enter your own sailplane performance data!

The SKYRACE flight manual describes the principles, variable soaring conditions and task options for beginners to experienced pilots. High resolution graphics, sound and joystick\*\* operation make you pilot-in-command.

\*Minimum equipment list:

IBM PC, XT, PC Jr., 128K, DOS 2.0, color graphics adapter, joystick optional.

Or Apple II with Applesoft in ROM or language card, Apple II+, Apple IIe, IIc or

Apple III\*\* in emulation mode, one disk drive. Color monitor or TV. Commodore 64 with 1541 disk.

**Program package: \$39.95.** Specify Apple, Commodore or IBM system.

\*\*Joystick use optional except for Apple III, which uses the keyboard only. Apple is a trademark of Apple Computer, Inc. IBM is a trademark of International Business Machines Corporation. Commodore 64 is a trademark of Commodore Business Machines, Inc.





**Marche Software** 

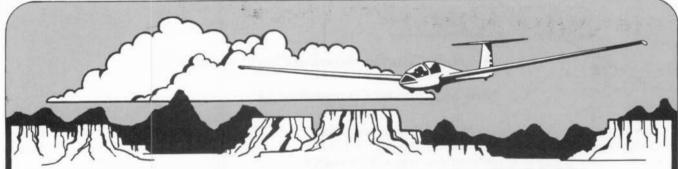
P.O. Box 1731, New Britain, Connecticut 06050

November 1986

VY	.Payne, Woodward J	CA
	. Veasey, Guy D	
W	.Kennedy, Thomas L, Jr	TN
	.Woodward, Woody	
	.Mueller, Bill	
	Sharp, Gary H	
W4	Johnson, James I	CA
W5	Lessard, George M	CA
W6	.Henderson, James H	TX
W7	.Liethen, Thomas R	.OR
	.Haig, Howard M	
	.Nielsen, John Ward	
	Scott, Wallace A	
WB	Whittemore Robert N	CT
WC	.Childers, Bill	FL
WCT .	.Trimble, W C Iii	.NC
	.O'neal, Richard M	
	.Buelna, Andrew J	
WF	.Markovich, Bruce M	CA
WG	.Chitty, Thomas, Jr	FL
	.Holbrook, William C	
	.Cheadle, John R	
WJ	.Betts, William J	MD
WK	.Woods, Woodson K	AZ
	.Lewis, Wayne	
	.Burnette, Alex	
	Wolf, James	
	.Howdon, William M	
	.Knauer, Larry D	
WO	.Tschannen, Bendicht H	CO
WP	.Clarke, William P	FL
	.Ruehle, Wm H	
	.Schuemann, Wil	
	.King, Peter C	
WU	.Woodward, Ralph, Jr	CO
WV	.Catto, Wayne Ŵ	OH
	.Williston, Everett S	
WX	Rogers, Walter A	CA
	.Malpas, William E	
	.Dodson, James H	
Λ	Koenig, Carl H	OIM.
V10	Mahany John D	NIV.
X10	Mahony, John P	DA
Λ2	. Hedges, Gary	FA
X3	Tuthill, Edward	IL
Λ4	utiliii, Euwaru	IA

X5	. Yahrling, Charles F	.NI
Х6	.Rhoades, Bill W	.TŃ
	.Lichina, Lawrence P	
X9	Ham, Robert	.CA
XB	. Beyer, Rolf R	.NY
	Huenl, Fred	
	. Kett, James L	
XE	. Tede, Robert K	.MO
XF	. Oglesby, James W, Md	.GA
XG	Dean, John G	.IN
XJ	Mouton, William J, Jr	.LA
XL	Barth, Carl O	
	Crook, Gregory M	
XN	Shaw, Mary	.PA
	. Schwager, Joseph E	
	Harris, David M	
	Heath, Albert C	
	. Stevens, G Bickley Ii	
	Papadopolous, Peter	
	Martinez, Greg	
XU	Stoner, Leslie L	TX
XV	Edwards, William L, Jr	NV
XW .	Wilson, Robert G V	KS
	Mink, Le Roy W	
	Grisham, D E	
	Ecklund, Philip	
Y1	Nockles, William A	MA
Y2	Thorndyke, Philip E	CA
	Anderson, Rick G	
Y4	Stoops, Tom A	OH
Y5	. Dyson, Bruce E . Youngblood, Robert W . Eilbacher, L E	MA
Y6	Youngblood, Robert W	FL
Y7	Eilbacher, L.E	IN
	Dwyer, James L	
	. Stutler, Richard E	
	Galotti, Dennis R	
	. Smith, Allan R	
	Danielson, Kenny C	
YD	Strang, Richard M	CA
YE	Halcrow, John	CA
	Jacobs, Kenneth H	
ΙН	Williams, Torrey	rL

YI Pittman, C W	.FL
YI Pittman, C W	.NJ
YL St Clair, William W	.WY
YMLewis, William	.MI
YO Nadler, David R	.MA
YPSlifer, John R, Jr	.TX
YQ Good, John F	.MA
YRRoediger, Walter C, Jr	.AZ
YSDoerr, William W, Dr	.MA
YTHellner, Thomas	.MI
YUStyles, Glen YVSproull, William C	.AZ
YVSproull, William C	.MN
YX Daniel Thomas E	.CA
YYKatinszky, Elemer A	.CA
YYY Katinszky, Harold	.CA
YZAgneta, David F	.MA
ZHill, William G Iii	.CO
Z1 Applebay, George	.NM
Z2Aitken, Donald W, Jr	.CA
Z3Smith, Mike	.KS
Z4Redlin, Carl	.UT
ZAClarke, R W	
ZBBuller, J Stanley	
ZCMinch, Lawrence I	OH.
ZDDuhaime, Raymond A	.CT
ZECambridge Aero Instr Inc	.MA
ZFFredkin, Edward	
ZGKontes, Peter W	.CT
ZI Barritt, Marion I	
ZKMecklenburg, Greg	
ZLWilson, Robert H	.IL
ZMJones, David G, Jr	
ZN Little, Terry L	
ZONelson, Stan	.FL
ZPPace, Earl W, Jr	
ZQ Pollard, Donald H	
ZRRussell, Duane A	
ZSBryson, Laurance M, Md ZTClark, David	TX
ZURoll, Harold E	FI.
ZV Sprague, Duane L	CA
ZWWirgandwicz, Zygmunt	A7.
ZXClemens, Peter M	
ZYChapman, John S	
ZZPerkins, J Russell	VA
ZZZ Erkes, Garv W	



# ENJOY A WESTERN SOARING VACATION... IN ARIZONA

IN BUSINESS SINCE 1967

CECOL
AND ARIZONA STABLES

• GLIDER RIDES • LESSONS • RENTALS • 3 TOW PLANES

• 4000 FT RUNWAY • PILOTS' LOUNGE

• HORSEBACK RIDING • CAMPING • BOATING & FISHING (3 MI FROM LAKE PLEASANT)

OUR FLEET OF SAILPLANES INCLUDES: 4 SGS 2-33A'S • 1 SGS 1-26D 1 SGS 2-32 • 1 BLANIK L-13 • 2 GROB 103'S

### **WE TEACH AEROBATICS**

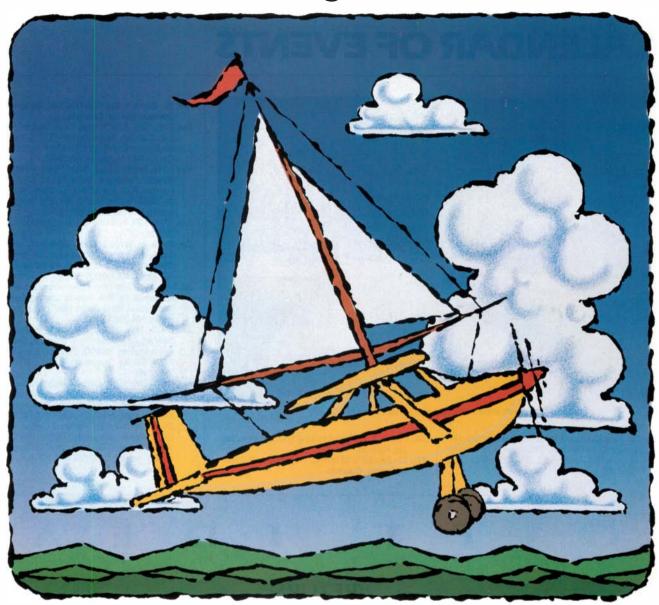
8902 W. CAREFREE HIGHWAY BOX 1586 BLACK CANYON STAGE PHOENIX, AZ 85029

(602) 439-3621

OPEN 7 DAYS A WEEK



BUSINESS MEMBER



# What do sailplanes look like to most insurance companies?

Most companies in the insurance business know very little about the sailplane business. And that can cause you some real problems in getting sailplane insurance for your exact needs.

That's why more sailplane enthusiasts come to Eastern. We specialize in sailplane insurance so we make sure you get the coverage that's just right for you. Our policy is comprehensive with features

especially important to the sailplane owner. Our sailplane expertise also means you can count on us for prompt and fair claims handling.

So if you fly sailplanes, make sure you are covered by the people who know sailplanes. Contact one of the agents listed below or call your local independent agent and ask for coverage from Eastern Aviation &

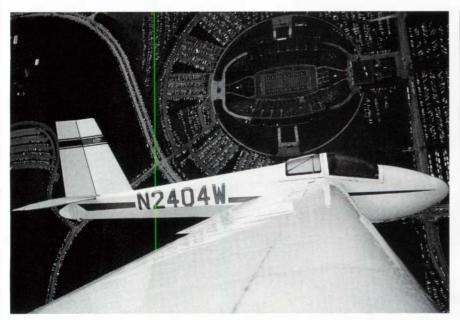
Marine Underwriters, Inc.



### **EASTERN AVIATION & MARINE UNDERWRITERS, INC.**

P.O. Box 10631 / Towson, MD 21204

### CALENDAR OF EVENTS



Events listed in bold-face type are sanctioned by SSA.

Nov. 28–29, 43rd Annual Snowbird Contest sponsored by Harril Hill Soaring Corp. Contact Harris Hill Soaring Corp., RD #3, Harris Hill Rd., Elmira, NY 14903, (607) 734-3128. Jan. 17-Feb. 1, 1987, World Gliding Championships, Benalla, Australia.

Feb. 23 - Feb. 25, CFIG CLINIC, The Broadmoor, Colorado Springs, Colorado.

Feb. 26 - March 1, SSA CONVENTION, The Broadmoor, Colorado Springs, Colorado.

Colorado Springs, Colorado.

Mar. 7–15, 1987, RESCO Wave Camp, California City Airport, California. Sponsored by RESCO. Contact Dick Buckman or Bud Hopp, (213) 476-4143, 1693 Stone Canyon Rd. Los Angeles, CA 90077.

May 10-15, Region 5 East, Winter Haven, Florida. Sponsored by: Florida Competition Soaring. Contact: Jerry Freeman, P. O. Box 7311-3383, Winter Haven, Florida 33883. Telephone (813) 324-3458 anytime. Practice day May 9th. Standard-15m Class.

June 17-June 24, 1-26 Championship. Practice days June 15 & 16.

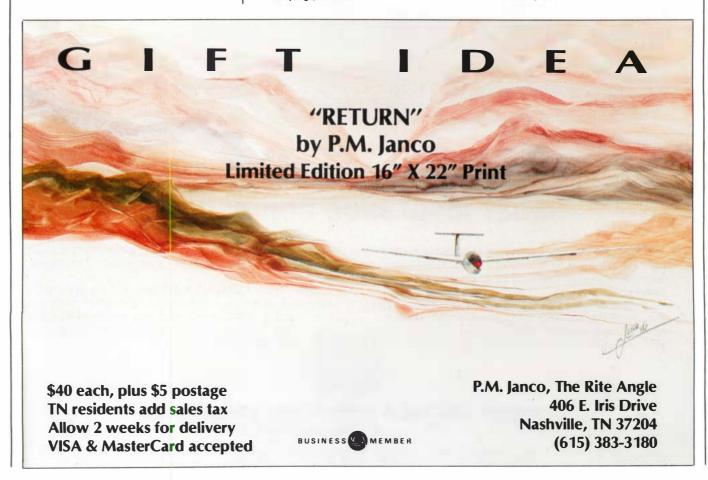
Jun. 30-Ju. 8, 1987, U.S. Sports Class National Soaring Championship, sponsored by Harris Hill Soaring Corporation. Contact, Gilleett Welles, RD #1 Harris Hill, Elmira, NY. (607) 796-9415.

Jul. 7-16, 1987, 54th Open Class Nationals, Hobbs, NM, sponsored by The National Soaring Foundation Inc. Contact Steve Maier, NMJC, Lovington Hwy., Hobbs, NM. (505) 392-4510.

Jul. 21-30, 1987, 12th U.S. National 15-Meter Class Soaring Championships, Barstow, California, sponsored by RESCO. Contact Trip Mellinger, 24743 Quigley Canyon, Newhall CA 91321. (805) 259-4749.

Aug. 4-13, 18th U.S. National Standard Class Soaring Championships, Uvande, Texas, sponsored by Uvalde Flight Center. Contact Mark Huffstuttler, P.O. Box 5184, Uvalde TX 78801. (512) 278-4481.

Aug. 29–30, Sep. 5–7, 1987, Region 12 Contest, California City, California, sponsored by RESCO (bid subject to sanction). Contact Trip Mellinger, 24734 Quigley Canyon Rd, Newhall, CA 91321 (805) 259-4749. Practice date Aug. 23.



# BORGELT

SIMPLY...THE BEST SAILPLANE VARIO & GLIDE COMPUTER SYSTEM





NAV, DISTANCE TO GO, ALTITUDE REQUIRED, % POLAR, HEADWIND - TAILWIND, HEIGHT, WAYPOINT SELECTOR (9 DISTANCES)

### **B-24**



3 POSITION WING LOADING, AVERAGER, MACCREADY ADJUSTMENT, SPEED TO FLY, AUDIO (4 TONES), CHANGES B - 21 TO NETTO IN CRUISE.

### **B-21**



VARIOMETER, 1 - 2 SECOND RESPONSE TIME, SELECTABLE DURING FLIGHT, THREE STAGE GUST FILTER.

### T.E. PROBES \$59

### NOW AVAILABLE BORGELT TOTAL ENERGY PROBES

STIFF - DURABLE - STAINLESS STEEL TRY ONE, SATISFACTION GUARANTEED SPECIFY FIN OR FUSELAGE MOUNT PRICE INCLUDES POST AND PACKING

### B-21 B-24 B-25 SYSTEM \$1970

1/2 INCH NUMBERS SUNLIGHT READABLE • THE SYSTEM IS USER FRIENDLY WITH ALL THE INFORMATION YOU NEED FOR COMPETITION OR CROSS-COUNTRY SOARING DISPLAYED FULL-TIME • INSTRUMENTS SUPER SHIELDED TO ELIMINATE RADIO INTERFERENCE • SOLID STATE PRESSURE TRANSDUCERS, ALTITUDE COMPENSATED • THE SYSTEM IS COMPLETE WITH REMOTE AUDIO SPEAKER PLUS CHOICE OF MANUAL OR FLAP SWITCH FOR CRUISE-CLIMB • PROMPT U.S.A. SERVICE.



CARSON, CA 90220 213 - 631-2058

### **BORGELT INSTRUMENTS U.S.A.**

P.O. BOX 99 WINCHESTER, CA 92396 **714 - 929-3037** 

BUSINESS MEMBER



1480 ARABIAN DRIVE STAR ROUTE 4, BOX 5310 - B TEHACHAPI, CA 93561

805 - 822-3027



# **CAMBRIDGE**

Introduces the New

# MARK 4M NAV/ VARIOMETER SYSTEM

### Check these features:

Altitude-Compensated NAV and VARIOMETER.

TE Compensation by TE Probe. VARIO Readout Available in 80 or 58mm.

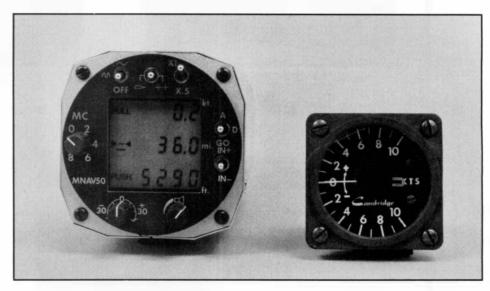
Final-Glide and Distance Navigation Computer.

Bug Polars, and Variable Wing-Loading.

**Full 4-Function Audio.** 

Speed Director.

Digital Averager.



The Cambridge MARK 4M has been developed from the well-established MKIV Variometer and MKIV NAV. It combines the latest in Micro-computer technology with the philosophy of the original MKIV system, to offer a reliable, affordable system for Competition and Cross-country pilots.

The Cambridge MARK 4M is the latest result of an on-going development program to combine technology with simplicity and ease-of-use. It represents our commitment to keeping the USA's instrumentation in the forefront.

Cambridge Systems were used by Winners of every World Championship for the last 11 years, including Rieti.

The Record speaks for itself.

\$1,300.00 Complete



50

Cambridge Aero Instruments, Inc. Warren Sugarbush Airport Rural Route 109A Warren, VT 05674 USA Telephone: (802) 496-7755 Telex: 91035 00471

Contact your local Cambridge Dealer.



# CLASSIFIED ADVERTISING

### CLASSIFIED ADVERTISING

ALL ADS MUST BE PREPAID
The rate for classified adve ising is 68 cents
per word or group of characters. (An area
code and phone number is counted as one
word.) The minimum charge for ads is \$9.52
(14 words). Insertions made by telephone
are subject to a \$1.00 service charge and
must be charged against a VISA, MasterCard or AX account. An initial fee of \$9.43 is
charged for each photograph, and \$7.34 per
repetition of the same illustration).
These charges include sales tax..

Ads can run continuously until cancelled but must be prepaid three months in advance. Ads can be cancelled by the deadline date, in which case prepayments will be re-

funded for ads not run.

Adve isements are

Adve isements are accepted up to the 15th of the month for the second cover date following. Should the 15th occur on a weekend or holiday the insertion deadline will be the last business day prior to the 15th. Thus the deadline would be **November 14 for t e January issue**.

Ads may not be cancelled or refunded after the deadline date, but a SOLD sign may be placed over an ad for a product that has been sold if the request for a SOLD sign is made by the last day of the deadline month (November 28th).

lease send ad, photo (color or B&W prints only) and payment (payable to SSA)

Classified Advertising Department SOARING Magazine P.O. Box E. Hobbs New Mexico 88241

### SAILPLANES FOR SALE, SINGLEPLACE

### **APPLEBAY**

ZUNI. Mint condition. Full house competition package and trailer. Impressive recent record. \$10,000 buys you a \$25,000 rig. (415) 851-7202. CA

ZUNI 2, carbon fiber, latest center stick mod, zero time since complete factory refinish, 44 hrs. T.T. Minden trailer, complete instruments, radio, oxygen, aircraft located at factory. Best offer. Don (305) 592-1702 days, 592-6936 evenings. FL

### **BOLKOW**

PHOEBUS B, 38:1, complete cross-country package. Cambridge electronic and mechanical varios, excellent compensation and netto. Keyboard entry glide computer, barograph, A-14 reg. and bailout bottle. Security 150, metal enclosed trailer. \$7,500 O.B.O. (213) 829-3093. CA

PHOEBUS C, complete cross-country, total energy, audio, radios, chute, enclosed metal trailer, barograph, never damaged, must sell. \$7,900 O.B.O. (314) 726-2942. MO

Phoebus C, honest 42:1, cross-country ready, full panel, oxygen, many extras, enclosed trailer. \$9,500. (818) 703-0558 eves. CA

### **BREIGLEB**

BG-12BD, 95% COMPLETE. Enclosed trailer, basic instruments and vario, oxygen. \$2,500. (609) 587-1286 days, 587-1325 eves. NJ

BG-12BD, 33:1 L/D, electric vario, instruments, trailer. Best ever built, superb condition, licensed. Asking \$4,000. (704) 684-7858 and 693-1124. NC

#### **BRYAN**

HP-13, Dual varios with audio, radio, accelerometer, inclinometer, compass, chute, oxygen, wingstand, tow kit, new enclosed trailer. \$7,900. (915) 653-5512. TX

HP-14 FULLY EQUIPPED, very good ondition, one man assembly, ground towing, enclosed aluminum trailer. \$8,000. Call (313) 498-2644 after 6 p.m. MI

HP-18 aircraft and trailer, all major construction complete, needs filling and paint, no instruments. \$8,000. (214) 875-2440. TX

RS-15, Very good condition, instruments, enclosed trailer. \$8,750/best offer. (517) 458-2403. MI

RS-15, 96 hrs. T.T., never damaged, covered metal trailer, instruments, 100 ch. Genave radio, A-14 oxygen, relicensed 5/27/86. \$8,500. Frank Kelsey (801) 278-7487. UT

### **CENTRAIR**

IN STOCK FOR IMMEDIATE DELIVERY. Two 101 Trainers, two 101B's, and one 101D racing sailplane. See them at Lagoon Valley Soaring, Vacaville, CA (707) 447-4500. CA

PEGASUS, 75 hrs., perfect condition, RICO VACS, Dittel radio, trailer and extras. \$22,000. Will consider trade for sailplane of lesser value. (904) 893-9779. North Florida

### **CHEROKEE**

Built 1977-4" widened cockpit, bubble canopy, open trailer, good fabric, needs light repair. \$1,500. (213) 376-3085. CA

CHEROKEE II, super condition with new paint. All instruments including audio vario, parachute, enclosed trailer. \$3200. (612) 455-3524 or (612) 699-6946. MN

### **CONCEPT 70**

CONCEPT-70, #21, 40 hrs. T.T. (Built in 1982). Kevlar fuselage and stabilizer, standard instruments with radio, enclosed trailer, excellent. \$11,500. (813) 544-8828 days, 393-9509 evenings. FL

### **GLASFLUGEL**

LIBELLE 201B, #471. Excellent condition, factory water ballast, metal trailer, instruments, radio. \$13,900. Aliyn Berryman (619) 446-6177 eves or 939-3210 days. CA

LIBELLE 201B, S/N 190. full instruments, radio, Smiley bags, oxygen, camera, factory trailer, barograph. \$13,400 (505) 881-8322. NM

LIBELLE 201B, excellent condition, water, oxygen, new instruments including Sage and audio, 200-ch. radio. Turbulator strips. Nice trailer. \$11,900. (301) 863-2260 eves. MD

LIBELLE 201B, contest-ready, metal trailer, Smiley bags, ground radio, parachute and spare parts. \$14,500 O.B.O. Evening (415) 435-9694. CA

LIBELLE 201 B, instruments, radio, oxygen, factory water, Minden Fab trailer with one person rigging. \$14,500 negotiable. Would consider trade on early Cessna 150. (702) 265-3229 evenings, 782-5633 days. NV

LIBELLE 201B, oxygen, water, good panel, radio, accessories, anti-collision markings, trailer, make offer (301) 340-6229. MD

LIBELLE H-301, Schuemannized wings, water, oxygen, radio, etc., metal trailer, 1/2 partnership, base at Hemet or close to L.A. New ship coming, must sell. \$6,500 (619) 235-4163. CA

LIBELLE H-301, Flight-tested by Johnson, beautiful condition. This is a good glider. Enclosed trailer. \$13,900. (203) 966-3939. CT

STD. LIBELLE, #131, excellent condition, trailer, water, oxygen, everything, ground crew radio, etc. \$14,000. (305) 665-7966. FL

MOSQUITO, low time, Schreder trailer, instruments, 1979 Standard Class Nationals winner in Hutchinson. \$1,700 O.B.O. (312) 640-1577. IL

MOSQUITO, 1979, #77, Edo-Aire 720 radio, RICO VACS, Winter vario, Schuemann Box, LC-2 Chronometer, G-meter, Turn and Bank, oxygen, A-14A, cockpit upholstered, Hamilton compass, tail dolly, Pfeifer trailer, never dinged, good condition. \$18,000. Charlie (716) 674-7885. NY

#### **GROB**

SPEED ASTIR IIB—Excellent Condition. RICO VACS. Bayside Radio. Komet trailer. \$21,000. (805) 948-0207 evenings.

### SSA ADVERTISING POLICY

Prospective purchasers of products or plans mentioned or advertised in Soaring should realize that proof-testing by the maker of the product, or by the designer of plans, and/or its installation may not have been accomplished according to standards acceptable to either governmental regulations or the individual purchaser. The Society has made no tests nor checked the validity of compliance with any Society advertising policy criteria. Before you buy, talk with someone who

Before you buy, talk with someone who knows aircraft, products, and/or plans, and who knows you. Some aircraft, products, and/or plans may not be appropriate to your level of construction or flying skills, nor may their present condition be the equal of that

when originally produ

If any advertisement does not specifically state "U.S. ATC'd," "TSO'd" or FCC approved, prospective buyers of aircraft, products, or plans for building which are offered for sale in Soaring may wish to ascertain whether the aircraft, product, or plan being considered has been awarded a government Approved Type Certificate, Technical Standard Order or FCC approval. Otherwise, the aircraft may be licensable only in the Expemental Category under F.A.R. 21 or the product may not comply with certain operating requirements or may even be illegal to be advertised.

SSA and its journal have neither the facilities, staff, nor legal authority to investigate advertising claims, but readers are requested to notify *Soaring* if misrepresentation occurs.



### **GLIDER PILOTS GROUND SCHOOL**

PREPARE FOR THE FAA WRITTEN EXAMINATION IN JUST ONE DAY!

GLIDER PILOTS GROUND SCHOOL is an accelerated school with airline quality up-to-date instruction using the most effective ground training available. You practice answering actual FAA-type questions and hear clear explanations from our professional instructors. You'll enjoy learning with our slide presentations on aerodynamics, regulations, instruments, weather, cross-country, glider operations, more. . . A printed COURSE SUMMARY and chart are supplied at no extra cost. Low, low price with 50% discount for family members attending the same class. We GUARANTEE that you will make a passing grade. If you do not pass you may attend any scheduled GPGS free by showing your Airman's Written Test Report. DIRECTORS and PRINCIPAL INSTRUCTORS are David E. Seymour, Edgar D. Seymour and John C. Seymour.

LOS ANGELES, CA	1 NOV 86	CHICAGO, IL	7 FEB 87	<ul> <li>MIAMI</li> </ul>	, FL	4 APR 87
SAN FRANCISCO, CA	8 NOV 86	SEATTLE, WA	21 FEB 87	. SAN F	RANCISCO, CA	25 APR 87
ROC/ELMIRA, NY	15 NOV 86 ·	SSA CONVE	NTION IN	<ul> <li>FLEMI</li> </ul>	NGTON, NJ	2 MAY 87
DALLAS, TX	6 DEC 86 ·	COLORADO SP	RINGS, CO	<ul> <li>HARTI</li> </ul>	FORD, CT	16 MAY 87
PHOENIX, AZ	10 JAN 87	SUNDAY 1 MA	RCH 1987	<ul> <li>ROC/E</li> </ul>	LMIRA, NY	30 MAY 87
CLEVELAND, OH	24 JAN 87	LOS ANGELES, CA	21 MAR 87	<ul> <li>ADRIA</li> </ul>	N, MI	6 JUN 87
**	* SPECIAL GL	IDER PILOTS GROUN	D SCHOOLS CA	N BE ARR	ANGED ***	
		bject to cancellation i	f fewer than 8 st	tudents pr	eregister	
To enroll, complete the foll						
GLIDER PILOTS GROUND	SCHOOL	69 Rhea Crescent, Ro	chester, NY 1461	5	or call (716) 8	65-9511
Enclosed is my check for \$	\$20. Please res	erve a space for me in	the class checke	d below. I	understand the re	maining fee wi
be due during registration	at the beginnin	g of class. 1986 prices	include one copy	of the FA	Question Book	used in class.
NAME				Phone(	)	
Address	SOME SET 1	of the contract of the			Zip	
Class Location/Date	PROPERTY NAMED IN		a secule at Amilia	0.60		
Registration 8:00 a.m. to 8						
10% discount if total fee is	received with p	postmark 10 days befo	re scheduled GP(	GS.	Priva	ate Glider \$115
I will be unable to attend a						planations and
recommended options for		ultiple choice questions	in the FAA Quest	tion Books		
□ Private Pilot COURSE S	SUMMARY \$11	.00 Private,	Commercial and	CFI Pilot	COURSE SUMMA	RY \$18.00



SPEED ASTIR II, less than 250 hrs. T.T. Komet trailer, fresh annual. Must sell. Make offer. (714) 659-4177. CA



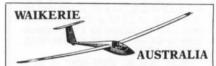
SPEED ASTIR IIB, 1979, N171SS, #4079, w/Minden trailer, 40:1 LD, 42 hrs. T.T., never outlanded, 2 Cambridge MKIV varios w/ flight director, EdoAire 720-channel radio, extras, superb condition. \$19,000. (512) 496-8008. TX

#### KITE

AVAILABLE SOON, 1936 Kite Glider, lovingly restored by English craftsmen, serious enquiries to Classic Aeroplane Ltd.: Staverton Airport, Cheltenham, Gloucestershire, GL51 6SR. United Kingdom. Telephone 0452 856661 or 0453 860053.

#### LAISTER

NUGGET, factory trailer, radio, oxygen, full instruments, spare parts, etc. 400 hrs. \$15,000 or best offer. (805) 259-5523. CA



- Proven as the World's Finest soaring site.
- 74 World Comps superb
- 1st Ever 1000km triangle competition
- 7 day flying Spring, Summer, Autumn
- On site accommodation
- Bar, cafeteria, Swimming Pool

Summer Competition December 14th-21st, 1986

WAIKERIE GLIDING CLUB INC. P.O. Box 320

Waikerie, South Australia 5330 ISD + 61 85 412 644

### USE THE STRENGTH \$\$ OF THE DOLLAR \$\$

Buy an annual subscription to Sailplane and Gliding for only \$15. Have the soaring journal of the British Gliding Association mailed directly to your home.

Send your cheque for \$15 (or for air mail delivery \$24) to:

B.G.A. Kimberley House Vaughan Way Leicester, England LP-49, FACTORY BUILT, radio, oxygen, full instrumentation, retractable gear, enclosed trailer, 1-34 performance. Fresh annual with sale, delivery negotiable. \$5,000. (303) 484-4943, 223-5962. CO

LP-49, HIGH PERFORMANCE, radio, parachute, oxygen, barograph, trailer, retractable gear, audio vario, 109 hrs., new paint. Complete. \$5,000. (805) 822-4320 after 6 p.m. CA

### LARK

I.S.-29D2. READY FOR GOLD, DIAMOND! 15m all metal, 37:1 and a dream to fly. Full instruments including Cambridge vario w/audio, radio, oxygen, Security 150 chute, Gehrlein enclosed trailer. "U.S. A.T.C.'d," \$12,700. (703) 698-8486. VA

### MONNETT

MONERAI KIT—Save 48%, only \$2,200. Do it now! (814) 355-7147. PA

#### MORELLI

1965-built M100S, broken but repairable, allwood construction, have factory plans, no instruments. Also metal covered trailer. Make offer. (305) 785-0159. FL

#### PIK

PIK-20B, Carbon fiber, interconnect, loaded X-C panel, ballast, radio, factory trailer, spares. Reasonable offer. (516) 265-4100 days, 421-0418 eves. NY

PIK-20B, factory trailer, instruments, oxygen, water, excellent condition, low time. \$12,500.(503) 779-1904. OR

### **PETERSEN**

J-4 JAVELIN, 32:1, new paint, metal, instruments & trailer: \$3,900. (916) 477-2464, Ray Poquette. CA

### **PILATUS**

B-4. Full instruments, g-meter, dual varios, audio, oxygen, enclosed trailer, new paint. Beautiful sailplane. \$12,500. (915) 563-4462. TX

### **ROLLADEN-SCHNEIDER**

LS-3, KOMET, radio, Schuemann and electric vario, basic instruments, excellent condition. \$21,000. (904) 224-4663 (w), 878-7054 (h). FL

LS-3, Komet trailer, instruments,radios, can deliver in the East. \$14,000. (803) 684-5688. SC

LS-3, Cambridge MKIV vario & nav, 720 Collins, oxygen, parachute, Walter, cameras, etc. Custom trailer. \$18,400. (805) 969-0454. CA

LS-3, Blumenhauer flight director system, Komet trailer, chute, radio, great condition, bargain priced. (215) 574-3890 PA work, (609) 482-5655 NJ home.

LS-3a: FULL INSTRUMENTS. Cambridge vario 3 scale and director. Schuemann netto, Schreder custom trailer. Excellent condition. (216) 234-4805 H, 241-7030 W. OH

LS-4a, Holds several national records, new water bags, call (805) 258-5147. CA

LS-6, Delivery position for sale, early '87, lost job. (915) 699-7466. TX

LS-6 with Komet trailer. (803) 271-8248. SC

#### **SALTO**

SALTO H-101, 275 hrs, instruments, radio, oxygen, trailer, extra canopy, plus more. \$15,000, (215) 822-0871, evenings. PA

#### **SCHEIBE**

SF-27A, Full panel, including radio, oxygen. ATC'd, excellent condition. Trailer with fitted cover. Western New York area. \$5,500. Call (716) 326-3821. NY

### **SCHEMPP-HIRTH**

OPEN CIRRUS, 44:1, big cockpit, fully equipped, factory trailer, new chute. \$9,000 firm. (203) 426-2049. CT

STD. CIRRUS, new Komet trailer. \$14,900. New Blumenhauer vario and speed to fly. PZL, Schuemannized netto, 360 channel radio, water, oxygen, competition sealed, excellent finish, fresh annual, never dinged. Bogie (301) 856-2959. VA

STD. CIRRUS, #178, excellent condition, complete package w/trailer, free Western delivery. \$12,000 (408) 947-1702 evenings. CA

DISCUS. March '87 deliver position. Trade for later date. Schacht, 2164 Overlook Dr., Bloomington, MN 55431. (612) 884-1809.

DISCUS-B, New '86, Komet trailer, 8th at Cordele. (704) 365-0621. NC

LO-150, 34:1, excellent Sports Class badge hunter. Spoilers, flaps, interconnect. Full package, electric vario system w/audio, T.E., camera mount, radio, parachute, enclosed trailer. Video available. \$5,500 O.B.O. (618) 586-2538. IL

### MAKIKI PELLET VARIOMETERS

The lowest cost varios on the market. No batteries needed, no adjustments to make. Proven reliable under the severest conditions. 60 day money-back guarantee; 1 year limited warranty against defects.

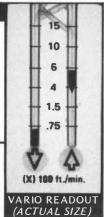
MODEL 1F PANEL VARIO Readout & Flask, ideal for sm. panel--only 1"x2"x½" \$85

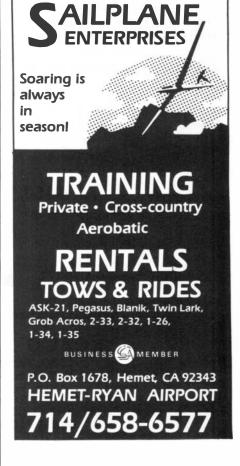
MODEL 2S BAR MT. VARIO Mounts on canopy cross bar of Schweizer 2-33 for rear pilot\$85 MODEL 2T TUBING MT. VARIO

For tow planes & ultralights \$85

MAIL ORDERS: Check, money order, or C.O.D. accepted. C.O.D. fee \$2.50. Air shipping prepaid on U.S. orders. OUTSIDE U.S.: Pay in U.S. monies, add \$5.50 per unit for shipping.

MAKIKI ELECTRONICS **TOLL FREE 1-800-367-8047** ext. **203** Dept-S, P.O. Box 629, Hauula, HI 96717 USA Ph: (808) 293-9348







### **Complete Vario Systems**

Triple scale ranges Built-in averager Front panel damping control Non-tiring dual audios Adjustable deadband

Automatic audio volume control Electronic total energy Both netto and speed-to-fly In-flight tuning to your polar Independent full-time displays Meter options — round or vertical



### The RICO Audio An easy sound to fly with

Dual up & down audio Independent up & down thresholds Adjustable damping Powerful built-in speaker Connector for external speaker Panel or side mounting Connector to add external meter



### **Other Products**

The RICO Super Gust Filter
 The RICO Wake Pressure Indicator
 Send for our free brochure.

REDWOOD INSTRUMENTS CO.,INC.
368 Rutherford Avenue
Redwood City, CA 94061
Phone (415) 361-8470
BUSINESS MEMBER

53

### SOARING.

**GROUND BRIEFING** & FLIGHT INSTRUCTION By Derek Johnson

### **VIDEO TRAINING FILMS**



Set of three tapes, five hours ......\$160.

For full details send stamped selfaddressed envelope to:

> **Derek Johnson** P. O. Box 249 Williamson, GA 30292

Borgelt Total Energy Probe

MINI-NIMBUS, still competitive, fully equipped in enclosed metal trailer, low time, excellent condition. \$16,500. (702) 831-2125. NV

NIMBUS 3, good condition, trailer, instruments, oxygen, radio, complete. \$42,000. (214) 424-1567. TX

NIMBUS 3 with ground handling equipment. Cobra trailer, Peschges, Dittel, oxygen, all excellent. (303) 925-8870. CO



TRADE FOR SAILPLANE. \$15,000+ value. (503) 692-0963. OR

\$ CALL

\$49.95

WANTED: Competitive Standard, or 15M to lease or partnership, for contest and weekday use. Peter (213) 455-3026. CA

VENTUS B 17.5m, CONSISTENT contest winner, extended factory 16.6m removable tips, contoured wings and entire airframe retips, contoured wings and entire airraine re-finished with Prestic (no gelcoat crazing problems ever). Full panel including Peschges VP2 computer, 1985 AVTEC clamshell trailer. Contact Alan Bikle, (702) 782-7049 days. NV

VENTUS B, 225 hrs., Cambridge NAV, Dittel 2-1/4" radio, tail tank, Cobra trailer. \$26,500. John Murray (413) 625-6117. MA

VENTUS B/16.6, instruments including computer, oxygen system, Minden trailer, low time, excellent condition, tailwheel mod, sealed, fast. (714) 854-1237. CA

AS-W 17DB, 23 meter wing, 2-man rig. Nimbus 3/AS-W 22 performance. \$18,500 O.B.O., or trade for Standard or 15 meter. Call Terry (714) 621-6567 eves. CA

AS-W 19, loaded, Komet, oxygen, computer, chute, crew radio, barograph, covers, wingstands. Call Bill (904) 325-3973. FL

AS-W 19 with trailer, just what you have been looking for. Ready to fly at \$16,000. (215) 337-1090. PA

AS-W 19, Schreder trailer, complete package in excellent condition. \$15,500. Schacht, 2164 Overlook Dr., Bloomington, MN 55431. (612) 884-1809.

AS-W 20, instruments, radio, trailer. \$18,900 (314) 822-9110. MO

AS-W 20. Instruments, radio, Smiley bags, tinted canopy, trailer. Must sell. \$18,000 or best offer. (612) 831-1487 or 944-3166 eves.

AS-W 20 and AS-W 20C, both beautiful and well-equipped, always hangared. W. W. Soaring, Inc. (813) 293-5584. FL

AS-W 20C. CONTEST READY. Trailer and instruments. \$32,500 firm. (213) 250-0134. CA

Ka-6CR, two Winters, B-Tube, PIP Audio, Dittel radio, 14-volt gel/cell, new tinted canopy, 360-channel crew radio, parachute, oxygen, trailer. New Ceconite, annual Aug. '86, clean, excellent condition, always hangared. Many extras. Call Ed (501) 225-6026 or 227-2380. AR

Ka-6CR, enclosed trailer, instruments, two varios, audio, T.E., radio, chute, excellent condition. \$7,500. Lambert, 525 Central Ave., Sparta, WI 54656 (608) 269-6352

Ka-8b, excellent condition. Wings recovered w/stits in '86. Fuselage earlier in Ceconite. New paint and annual. Basic instruments. Mechanical varios, one with TE/Speed ring. Always hangared, enclosed trailer. \$6,500 (803) 478-4764. SC

WANTED: AS-W 20A, clean, low time, unbroken, complete package with trailer. (216) 572-0571. OH

### **SCHWEIZER**

SGU 1-20, open cockpit, built 1946, restored 1980. \$3,500. Open trailer. \$900. (612) 884-1809, (612) 822-5605. MN

1-23 H-15, #49, good condition, trailer, one owner, paint 2 years, Cambridge, A-14, chute. \$7,500, (619) 579-6416. CA

### ResCo Supply

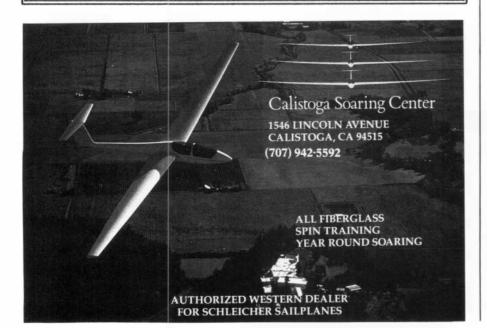
830 Terrace Dr. Long Beach, CA 90807 213 423-4466

We are the FIRST and ONLY soaring discount supplier! Check our brand name prices . . . TOT COCT

	LIST		COS1
NICRO Solar Powered Trailer Vent	\$84.50		\$78.50
ARCO Solar Battery Charger G100	\$130 .		\$89. 95
M10	\$110 .		\$69.95
Sun Tiger Sun Glasses	\$39.95		\$34.95
			\$39.95
Vinyl Tape, White, 3M #471 equal			\$ 3.95
Borgelt Air Data System, Complete			

213 423-4466 COD or Check . . Sorry, no Credit Cards

Trailer Tire Covers with Contest Number (pr).



1-26B, #309, 550 hrs., radio, oxygen, dual varios, T.E., audio, trailer, extras. \$6,900. (805) 251-9021. CA

1-26B CUSTOM BUILT. Exceptional components and trim. Exceptional trailer. Oxygen system, etc., low time. See at Caddo Mills hangar. \$6,500. (214) 667-5279. TX

1-26B, #125. Enclosed trailer, instruments, oxygen, radio. Excellent condition, never damaged. \$5,500. (518) 885-4558. NY

1-26C, #270, T.T. 700 hrs, vario w/audio, radio, trailer. Well cared for. Asking \$6,800. (915) 682-4211, 699-7466 eves. TX



1-26C, #292. Sweet handling and looking. Low time, superb shape. Loaded. Enclosed trailer. Negotiable. Jeff (919) 493-7187 NC

1-26D. Dual varios, audio, radio, battery and charger, and trailer. \$6,500.(915) 563-4462.

1-26D, #441, Excellent condition, dual varios, T. E. oxygen, radio, parachute, trailer. \$8,500. Please call (512) 681-6651. TX

1-26E, good condition, needs paint, no trailer. \$5,995.95. (516) 997-5575. NY

1-26E, #611, open trailer, soaring aids with audio, Friebe T&V, RST 6-channel. \$7,500 (404) 962-2396. GA

1-26E, #551, Radio, oxygen, 2 varios, new trailer. Leaseback available. \$8,000. Bob (303) 596-6969 eves. CO

1-26E, #675, Silver Anniversary 1-26 with super instruments, trailer and many extras. Must sell to buy new house. \$8,500. Jim (616) 725-4379. OH

1-34, fresh annual, 916 hours T. T., dual varios, audio. \$8,500. Call (201) 272-5149 or (201) 454-3089. NJ

1-34 SGS, Fresh annual, new Imron paint, very sharp. \$12,000. (602) 568-2318 11a-3p re: Lee Gohr sailplane, 775-5762. AZ

1-35, #16, N34176, radio, wet wings, enclosed trailer, retractable, electric and audio vario, Schuemann Box, droop tips, filled wings, integrated ailerons. Reasonable. \$11,500. (704) 861-8218 eves.

1-35A #88, N2888H. The highest perfor-1-35A #88, N2888H. The highest performance metal ship flying. Performance equal to the best glass birds, 40+:1. Approx. 200 hrs., beautiful new paint by Schweizer, complete instruments, radio, high capacity oxygen, thick wing skins, 2 degree wing incidence, Elf trailer. Call (504) 283-2595 days, 394-7140 eves. LA

1-35C, #70 Cambridge dual-range, audio, Winter, Mentor radio. White with red trim. Beautiful condition, 320 hrs. T.T. Price reduced. Call (504) 283-2595 days, 394-7140 eves. LA

1-36 SPRITE, #26, tail dragger, mint condition. Custom panel, trailer & other extras. (617) 387-6701 days, 887-2278 eves. MA

# **SOARING JEWELRY**



Shown 11/2 x size

### TIE TACKS • CHARMS • STICKPINS

Remember That Special Person

\$13.50 POSTPAID California residents add 6 ½% Sales Tax

State: 14 Kt. Gold Plate

or Antique Silver

PIK\*Pacific (213) 376-4590

1231 2nd Street

Manhattan Beach, CA 90266

### MECHANICAL VARIOMETERS AND TOTAL ENERGY SYSTEMS

- BUSINESS MEMBER -

accurate to 20,000 feet five hundred dollars

INSTRUMENT INSTALLATION KIT colored tubing plus . . . seventy-five dollars

FUSELAGE STATIC PORT KITS two static port kit thirty dollars four static port kit sixty dollars

Four and five color variometer dials for quick unambiguous readings. Model SV available in meters/second dial.



MODEL SV 1.8 second speed ± 0 to 10 knots four hundred dollars



MODEL CV 1.0 second speed ± 0 to 10 knots + 10 to 20 knots



1.0 second speed ± 0 to 10 knots + 10 to 20 knots

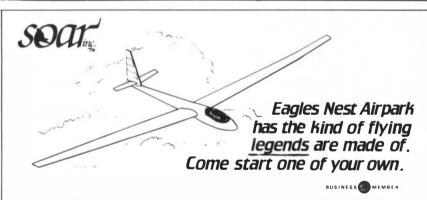
+ 10 to 20 knots ± 12 knot averager nine hundred dollars

Terms: request reserves delivery position, payment due when instrument is ready to ship. Delivery: time varies from several weeks to approximately three months.

WIL SCHUEMANN

705 Wagner Drive, Carson City, NV 89701 (702) 885-7362

BUSINESS



Soar Inc. Eagles Nest Airpark , P.O.Box 3089 Odessa , Tx. 79760 915/563-8191

### SAILPLANE INSURANCE

COMMERCIAL



REALISTIC RATES — SUPERIOR SERVICE

Call toll-free in California Others call

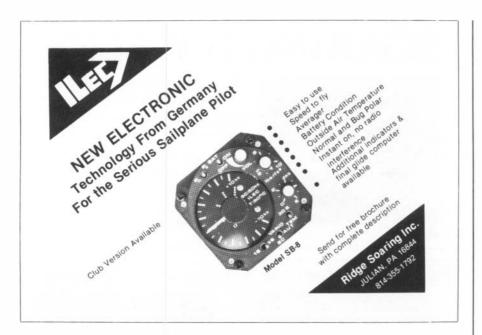
(800) 634-0101 (805) 522-3428

PIK\*WEST INSURANCE AGENCY

P.O. Box 3474 Simi Valley, California 93063



November 1986







### **SLINGSBY**

DART 17M RETRACTABLE, excellent condition, 36:1, new stressed skin trailer, chute, oxygen, vario, 90-channel Bayside, fresh annual, best cost/performance. \$7,800. (801) 363-9238 eves. UT

### TWO-PLACE FOR SALE

#### BLANIK

1977 BLANIK, TN 46RM. Very low time, 882 hours. Unflown for over one year. Radio included. Very good condition. \$13,000 with trailer. (614) 451-2418. OH

L-13, 1973, approx. 1,000 T.T., radio, dual oxygen, dual electric vario, open trailer, good condition. \$12,000 O.B.O. (503) 382-7671 OR

#### **GROB**

TWIN ASTIR, 1978 with enclosed trailer, good condition, more performance for much less than new prices. (813) 988-7873. FL

G-103, 1983. 500 T.T., with RICO VA, RST radio. Oxygen and enclosed Gehrlein trailer available. (203) 868-7813 after 5 p.m. CT

G-103 Twin Two like new, always hangared, instruments and radio. W. W. Soaring, Inc. (813) 293-5584. FL

G-103 ACRO, 1985, two to choose from, 200 hrs, no damage. \$32,000. Meadowlark (919) 449-4823. NC

#### ARK

I.S.-28B2, excellent condition, new paint, new interior, dual instruments, 300 hours, with trailer. Must sell. (713) 270-0131. TX

### SCHEMPP-HIRTH

JANUS-B #75. Complete with radio, instruments and trailer. Wes Morris. (602) 947-0362 or 946-8356. AZ

JANUS-C "The works" (806) 792-6153 day, 795-1836 nite. TX

THE NICEST, THE QUIETEST, the plushest, the BEST equipped Janus-C is for sale! It is ready for world records! It can be seen at Estrella Sailport. For more information, call Les Horvath, (602)568-2318. AZ

### **SCHLEICHER**

AS-K 21 with trailer, good condition. \$32,900 make offer. (615) 790-9663. TN

### SCHWEIZER

2-22, Good condition, April annual, basic instruments & canopy cover. \$3,500 firm. (704) 264-7627. NC

2-22E with open trailer, low time. \$3,500. Contact Allen at (601) 844-5036 or 844-4081 after 6:00 p.m. MS

2-33A, #428, re-manufactured to factory spec with factory parts. Better than new. Ceconite cover, new canopy, instruments. \$11,500. Uvalde Flight Center (512) 278-4481. TX

2-33A's, two available, swivel tail-wheel, fresh annual. Eagle Ridge Soaring (201) 362-8311. NJ

WHO KNOWS YOU'RE SEARCHING? Put the SOARING WANTE QLASSIFIEDS to work for you. Call (505) 392-1177. NM

### SELF-LAUNCHING AND MOTORGLIDERS

### **AEROSPORT**

SOAR THE THERMALS in the factory-built, ready-to-fly Aerosport M-101 all-aluminum 16:1 motorglider. Fully portable and designed for the independent glider pilot. Call Airsports for more information at (417) 468-6388 or 329-5525. Brochure, trades considered. MO

### **GLASER-DIRKS**

DG-400 ENGINE COMPLETE. Factory new with extension retraction motordrive, propellor and factory test data. \$8,500. Glaser-Dirks (707) 942-5727. CA

DG-400, loaded, all options, trailer, 3 hrs. T.T.S.N., hangared, import documentation complete. Immediate delivery. \$59,000. (800) 255-9260, or within Texas (214) 357-1111 Jay.

### **GROB**

G-109, 1981, 400 hrs T.T., 250 hrs. engine T.T., like new with new canopy and interior. Can give checkout and deliver. A real good buy at \$25,000. (801) 678-3222. UT

G-109A, 188 T.T., 0 on Limbach overhaul, new prop, all mods, Navcom, intercom, strobes, wingstands. \$29,500. (207) 532-7185. ME

### **MAUPIN**



WINDROSE SELF-LAUNCHING SAIL-PLANE, complete package. Sailplane, engine, instruments, trailer, quick assembly stands. \$8,950. Need funds to finish Carbon Dragon. Jim Maupin (213) 326-1808. CA

### PIK

JOIN THE SELF-LAUNCHING sailplane group with a new high-performance PIK-30. Retractable, dual solid-state ignition engine, water ballast. Good delivery positions. Tom Smith, 86 Pine Ridge Road, Montgomery, MA 01085. (413) 862-4704.

PIK-20E, #20284, new 1980 original, one owner, loaded, little time due to medical. (413) 862-4704. MA

### SCHEIBE

1982 SCHEIBE SF-28A "Tandem Falke," 95 hrs. since new, always hangared. \$29,500. Custom trailer available. (312) 683-3053. IL

### **SCHEMPP-HIRTH**

JANUS-CM, #JM12, self-launch, Komet trailer, two 720 Becker radios, loaded. 10 hrs. T.T. \$6,500 Two-place world record setter ready to go. (512) 650-4030. TX

JANUS-CM plus instruments and trailer, U.K. record holder, manufactured March '86, excellent condition. Apply to Linecall Ltd., Naphill Cottage, Forge Road, Naphill, HP14 4FT, ENGLAND, (011) (44) 24-024-3057.

### WESTERBOER VW920/910

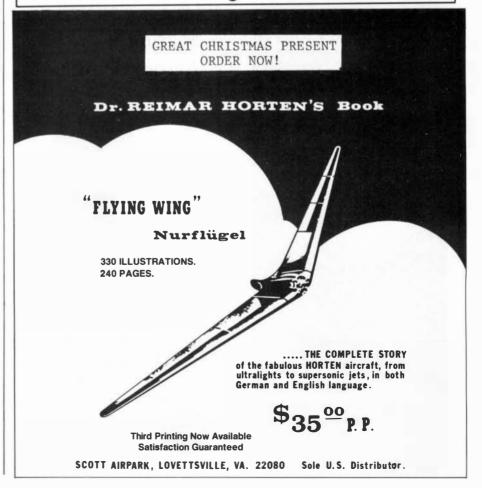
Air Data computer and variometer Latest updated and improved U.S. models Available from stock \$2000 + shipping





Glaser-Dirks East Robert Gaines 308 Chase Lane Marietta, GA 30067 (404) 973-1414

BUSINESS MEMBER



## NEW! Quencheroo



### \$21.85 plus 4.50 postage

- Quart Inner Bag
- · Built-In Cold Pack
- 6" Dispenser, On/Off Bottle Valve
- Nylon Outer Bag w/Vinyl Pocket
- Velcro Closure
- Fastix Hangar w/Belt Straps
- Navy/Silver Only

SSA Merchandise Dept. P.O. Box E Hobbs, NM 88241 (505) 392-1177 Check, MasterCard & VISA Allow 4–6 weeks for delivery



### **SCHLEICHER**

AS-K 14, 205 hrs. T.T., good condition, electric start, fresh engine inspection, Schleicher covered trailer, Security parachute. \$10,000. (207) 437-9368 eves. ME

### **SPORTAVIA**

RF5B, low time, IFR, punch test, new condition, cylinders 80/80. (805) 944-4764. \$24,500. CA

### **TUGS AND PLANES**

PIPER, 1961 PA 18-150, 4,200 T.T., 650 M.O.H., 100 T.O.H., N.D.H., Cleveland Brakes, tow hitch, Ceconite, Genave, clean, 16,500, (216) 572-0571. OH

### **INSTRUMENTS**

BORGELT vario and glide computer. Borgelt Instruments U.S.A., Box 99, Winchester, CA 92396. (714) 929-3037.

RICO VACS. Competition model, audio, netto. Speed to fly can be reset to any L/D. \$600. Conner (813) 735-0916.

CAMBRIDGE MK IVM Nav/Variometer system. \$1,000. (803) 377-8783. SC

WINTER BAROGRAPH. \$300. 720 Collins crew radio \$600. Narco HT-800 \$300. Cambridge vario \$125. MKIV Director/Averager \$225. (805) 969-0454. CA

FOUND THE RIGHT EQUIPMENT YET? Place a "WANTED" ad here. Call (505) 392-1177. MC, VISA, and now AX. NM

### Soaring Across Country



The author is the British Sr. National Coach, and offers 20 years of cross-country and CFI experience. Enjoy the gentle nudge of this patient teacher.

Guidance, encouragement and practical how-to hints are offered in this readable, illustrated offering, \$17.95 plus 2.95 p&h.

From—



SSA P.O. Box E Hobbs, NM 88241 ILEC SB-8 Variometer, never used, new \$500. All manuals and wiring harness. (615) 790-9663. TN

### RADIOS

TR-720 HANDHELD, 3 battery packs \$500. Amplifier \$150. (803) 377-8783. SC

### **PARACHUTES**

STRONG PARACHUTES, thin, lightweight. Special discount to S.S.A. members. Ridge Soaring, Inc. R.D., Julian, PA 16844. (814) 355-1792.

### SAILPLANE TRAILERS

17M OPEN TRAILER, German-made, has fittings for Phoebus, for sale again, call Jon (303) 495-4316. CO

PIK FACTORY TRAILER. \$2,700. PIK oxygen system \$250. Call Bill (713) 229-5454 work, 666-7215 home. TX

ENCLOSED TRAILER for 15M, tows great, all fittings. \$1,500. (704) 264-7627. NC

TRAILERS: Cobra, Komet and Pfeifer. Call Ridge Soaring Gliderport (814) 355-1792. PA

GEHRLEIN open sectional trailer for a 1-34 or similar 15m. Good condition. \$800. Ridge Soaring (814) 355-1792. PA

HAVE YOU FOUND THE RIGHT TRAILER YET? Place a "WANTED" ad here. Call (505) 392-1177. NM

15M TRAILER, enclosed one inch frame tubing, aluminum, covered, white, side loading for wings, hydraulic surge brakes. \$1,800. Charles Walker (216) 356-9829. OH

### SAILPLANE REPAIRS

AVTEC—Specialist in repair, maintenance, and modification of fiberglass sailplanes. We offer the most complete facility and experienced personnel in the country. FAA certified repair station 411-29. Contact Alan Bikle, P.O. Box 1328, Gardnerville, Nevada 89410. (702) 782-7049.

GEHRLEIN PRODUCTS. Quality fiberglass and metal repairs. FAA certified repair station 114-14. 9001 Hamot Road, Waterford, PA 16441. (814) 866-1131.

J.J. GLIDER REPAIR. Fiberglass, metal, wood, dope and fabric. Licensed A&P. 4070 Glider Rd., Placerville, CA 95667. (916)622-4991

NEW ENGLAND's only fiberglass certified repair station is open. John Murray of Eastern Sailplanes is now fully FAA certified for fiberglass glider repairs. CRS #E63-131. Eastern Sailplanes/John Murray, Heath Stage Route, Shelbourne Falls, MA 01370. (413) 625-6117.

### SCHOOLS, CLUBS AND SOARING SITES

LAKE WALES SOARING in Florida is your answer to long winter blues. We're in the exact center of Florida. Disney, Epcot and beaches are minutes away. Open 7 days. Ask for Jim (813) 638-1015, or Bob (813) 638-2678.

SOAR WESTERN COLORADO. Complete soaring facility. Campsites to homesites. Examiner on staff. Crawford Aviation, Crawford, CO 81415. (303) 921-SOAR.

ELSINORE VALLEY SOARING CLUB. Hemet-Ryan Field, California. G-103, Pilatus B-4 (cross-country equipped). Licensed pilots only. Several memberships available. (619) 723-7758. CA

SOUTHERN SOARING, Mt. Airy, North Carolina's best soaring alternative. Thermals, Wave and Aerobatics at the rim of the Appalachians. Dual in G-103 ACRO. \$40/hr. Rentals G-103 and G-102 IIIb. \$30/hr. Schweizer 1-26 \$15/hr. Tows \$0.75/hundred ft. behind our new Maule M-6. Accommodations available. Come fly and have fun. Call for info. (919) 789-5153 day, 725-1484 evening. NC

SOARING OPERATION FOR SALE. Operating since 1977. Airport lease, approx. 2000 flights/year. Possible lease on large hangar. Close to Reno and Tahoe area, excellent soaring. With or without equipment. Interested principals only write to Soaring Operation, P.O. Box 8002, Reno, NV 89502.

### **WANTED**

WANTED: RIGHT WING for HP-11A or both wings for HP-11. (702) 564-1886. NV

WANTED: Leaseback Tow Plane, high performance single and two-place gliders. 1 hour from NYC. Eagle Ridge Soaring (201) 362-8311. NJ

HELP WANTED: CFIG or commercial glider and help in office. Lodging available. A&P a plus. Male or female okay. Sky Sailors, Inc. (516) 288-5858 days, 736-2427 eves. NY

WANTED: Interested in entering leaseback arrangement on high performance two-place sailplane. Will purchase to fit your needs. (216) 831-5500. 2182 W. 31st St., Cleveland. OH.

WANTED: PARTNER(S) in motorglider to be based in San Diego. (619) 223-3745. CA

WANTED: Komet, Kostabel or Cobra trailer in excellent condition to hold 15 meter PIK-20 sailplane. Call days (416) 922-0296, eves. 245-7332. VT

SET OF WINGS FOR HP-14 WANTED. Part built kit, repairable damage OK. Or have good fuselage and trailer for sale. Also left wing for 1-26B, same situation. (204) 888-4896 eves. MANITOBA

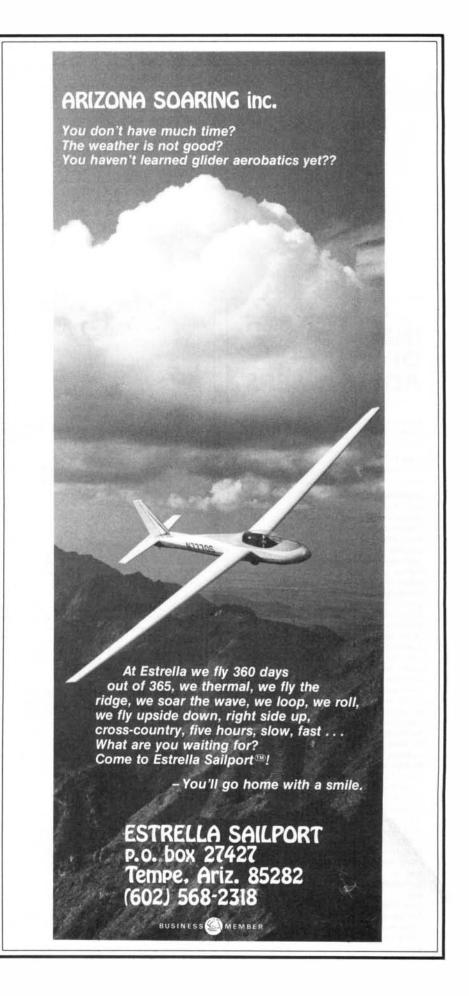
WHAT DO YOU WANT? And how are you going to find it? Place your ad here and it may find you faster. Call (505) 392-1177 to charge it to your VISA, MC or AX card today.

HELP WANTED: Tow pilots, commercial glider pilots, glider instructors. 2-32 experience, full-time December through April, good pay. Commercial rides operation in South Florida. Contact: Glider Rides of America, 2633 Lantana Rd., Lantana, FL 33462, or call 1 (800) SOARING, ask for Dick.

### **MISCELLANEOUS**

ONE-PERSON SAILPLANE RIG. Use our two tubular steel folding dollies and you can do it alone, safely and leisurely. For further information and price, write EZ Rig, P.O. Box 71354, Reno, NV 89570-1354.

CANOPY COVERS, GLIDER COVERS, SHEEPSKIN PARACHUTE LINERS. We make the best! Swaddled Sailplanes. (512) 441-8649. TX





# INDEX OF ADVERTISERS

Advertising Offices P.O. Box E Hobbs, NM 88241

Judith Purcell, Advertising Coordinator

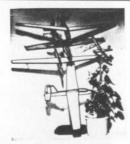
AeroSmithing 14
Arizona Soaring Inc 58
Norman Beerger Productions 11
Borgelt Instruments USA 49
British Gliding Assoc 52
Calistoga Soaring Center 54
Cambridge Aero Instrument
Centrair IBC
Eastern Aviation & Marine
Eastern Sailplane
Glaser-Dirks East
Glaser-Dirks Sailplanes IFC
Glider Pilots Ground Sch
Grob Systems, Inc BC
Hidalgo Supply Co 15
High Country Soaring 52
Makiki Electronics 53
Marche Software 45
Meadowlark Gliderport 52
Minden Fabrication 56
November Zulu 34
Peach State Gliderport 54
Pik*Pacific 12, 55
Pik*West Insurance Agency 55
Redwood Instruments/RICO 53
Replogle Barograph 15
ResCo Supply54
Ridge Soaring, Inc 25, 56
The Rite Angle 48
Sailplane Enterprises 53
Wil Schuemann 55
Scott Airpark 57
Gren Seibels40
Sequatchie Soaring
Sierra-Nevada Soaring
Soar Inc
Soar Minden
SSA 5, 13, 36, 37, 38, 58
Sprint Systems 42
Turf Soaring
Waikerie Gliding Club Inc
Warner Springs Soaring
Xvion
Ayi0i1

LUXURY HOME WITH LARGE SHOP located just 5 miles from Douglas County Airport, Minden, NV. 2,360 sq. ft., passive solar home located on 2.7 acres of pine covered hillside bordered by B.L.M. land. High quality throughout, solid oak cabinets, trim, etc. Kitchenaide and Jennaire appliances, indoor spa, large deck, magnificent view, landscaped yard. 2,400 sq. ft. shop with spraybooth, store rooms, etc., currently used as a sailplane repair facility. \$210,000. For more information, photos, contact Alan Bikle, Box 1328, Gardnerville, NV 89410

BAROGRAPH CALIBRATION. \$25 includes return shipping via UPS in continental USA. Ship to Knypstra, 1441 Wright St., Los Angeles, CA 90015. (213) 747-9236, (818) 769-3087 eyes.



STERLING SILVER WING PINS. Superior quality. Great gifts! Satisfaction guaranteed. Small (1-3/8") \$22. Medium (2") \$38. Large (3") \$64. Check, VISA, MasterCard. Ramsey Enterprises, 7711 Knoxville Drive, Lubbock, TX 79423. Free catalog.



STAINED GLASS SAILPLANES, 1/40 scale, nickel plated, mounted, \$25. Desk top, hangable, \$20. Flower stakes, \$15. Window sun catchers, \$15. Xmas tree ornaments, 6" span, \$15. V, T, Standard tails. David Rythi, 1900 44th Ave., N.E., Columbia Heights, MN 55421, (612) 789-4502.



RAMP CADET WINGSTANDS. Very sturdy, easily adjustable, chrome-plated tripod with beautiful padded redwood wing support. \$185/pair. MC/Visa. Swaddled Sailplanes, 2414 Havenside, Austin, TX 78704. (512) 441-8649. Now available through our authorized distributors: Ridge Soaring, Sierra Romeo and Soar Minden!

SAILPLANE MOLDS FOR SALE. Complete molds, accessories, blueprints and specifications for building the all-fiberglass, hi-performance Concept-70. Must sell. (813) 544-8828. FL

### **PLANS & PUBLICATIONS**

AUSTRALIAN GLIDING, monthly publication of the Gliding Federation of Australia. Editor, Allan Ash. Subscription \$AUS 18.50 by check on Australian bank or \$US 15.00 by personal check. Airmail \$AUS 37.50 or \$US 27.00 personal check. Also payable by international money order in Australian currency. G.P.O. Box 1650, Adeliade 5001, South Australia.

SAILPLANE & GLIDING—the only authoritative British magazine devoted solely to the sport of gliding and soaring. 48 pages of fascinating material and pictures. Published every other month. Send 9.50 pounds (or U.S. \$15) for a year's subscription to British Gliding Association, Kimberley House, Vaughan Way, Leicester, LE1 4SG, England.

THE GLIDING KIWI. The official journal of the New Zealand Gliding Association. Edited by John Roake. Mail your personal check for \$15 U.S. (annual subscription) to: Private Bag, Tauranga, New Zealand.

TURNPOINTS: Gren Seibels' latest hodgepodge on soaring and similar puzzling enterprises. Photos by Uveges. \$20 prpd + \$3.95 p&h from SSA. AFTER ALL: Seibels' second Lincoln Award winner. \$15 prpd + \$2.95 p&h from SSA. A GAGGLE OF ONE: his first Lincoln Awarder—just a few copies left. Direct from the author. \$15 pp. 2400 Heyward, Columbia. SC 29205.



WINDROSE—Quick to build, self-launching sailplane. Foam-Fiberglass-Wood. Plans \$175.00, info pack \$5.00. Pre-fab parts available. Jim Maupin, Ltd., 26338 Zephyr, Harbor City, CA 90710



WOODSTOCK—Classic wood-fabric sailplane. Inexpensive, superb handling. Plans \$125.00, info pack \$5.00, prefab parts available. Jim Maupin, Ltd., 26338 Zephyr, Harbor City, CA 90710.

HANG GLIDING MAGAZINE, monthly magazine of the United States Hang Gliding Assn., Inc. Covers all aspects of foot-launched flight for rigid and flexible wings. Full membership \$39, subscription \$29. USHGA, P. O. Box 66306-S, Los Angeles, CA 90066. (213) 390-3065.

# PEGASE D

## Today's ultimate in standard class

Western U.S. Dealer R. Mayes Lagoon Valley Soaring 5730 Rivera Rd. Vacaville, CA 95688 (707) 447-4500

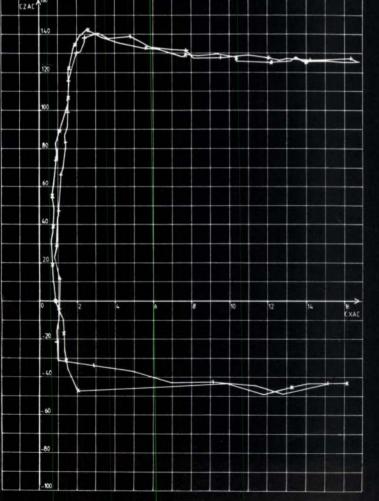
Eastern U.S. Dealer Dave MacKenzie Azimuth, Inc. Box 114 Warren, CT 06754 (203) 868-0186

F-WGFB

Bord d'Attaque

peu sensible aux moustiques

Finesse 42,5 à 105 km/h Taux de chute 0,62 m/s à 85 km/h Masse à vide 252 kg Masse max. 505 kg Masse max. ballast 160 kg



PROFIL DAP 03C POLAIRE SANS SOUFFLAGE VO=30M/S

Intrados pratiquement laminaire jusqu'au bout de fuite aux angles d'attaque positif

Laminarité extrados entre 30 et 40%

centrair

36800 Le Blanc France Tél. 54.37.07.96

R.C. Châteauroux 70 B 11

Caractéristiques données à titre indicatif

# C-109B

# **EXPAND YOUR HORIZONS**



realized. training is only beginning to be ofhers can't go, and its potential in means no waiting. It can soar where sailplanes a real run. The G-109B competitors and gives some pure well in a thermal that it outclimbs its sinks at 3 1/2 fps, and maneuvers so As a sailplane, it penetrates at 28:1,

for a demonstration today. broad your horizons can be ... call across the continent. Find out how Grob in the U.S. and by dealers tified, and best of all, it is serviced by ple and sure. The G-109B is fully cerand comfortable; its controls are simfolding wings; its cockpit is spacious Storage is convenient with its quickly

> your soaring horizons. its high-tech G-109B-to expand ers can't. That's why Grob designed sky and to fly in places and ways othfreedom to explore new areas of the value. They also like freedom, the like-performance, handling, quality, Grob knows what soaring pilots

> rizons of flying enjoyment. one, and flying it will broaden your ho-The G-109B is really two aircraft in

low fuel consumptions. this on only 90 hp and at some very comfort for up to 800 miles. It does 150, and it carries two in elegant obstacles 30% faster than a Cessna ft., climbs at 650 fpm, clears a 50 ft. cruises at 103 Kts, takes off in 643 looks, handling and efficiency. It As an airplane, the G-109B offers

BUSINESS S MEMBER

BLUFFTON, OHIO 45817

**CKOB** 

**BVIRG TROGRIA & 27-1** 

**Telex 241362** 

358-9015

G-109B

Standard III

CIPP IIIP

ACTO

II niwT