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On the Cover

Hollywood starlets perched on the leading edge of the Bowlus/Nelson Bumble Bee and two others huddled in its cockpit demonstrate the strength of its wings and its retractable undercarriage. The Bumble Bee was an auxiliary powered two-place version of the Baby Albatross. It was powered by a four-cylinder opposed, two-cycle, 16 hp engine (at 3500 rpm) installed on the aft point of the pod. The ship was built by Nelson Aircraft Corporation, San Fernando, CA, of which Ted Nelson was president and Hawley Bowlus the vice president.

The 4th Annual Soaring History Symposium, May 4-5, 2007



Community Soaring Luncheon

Beautiful warm May weather graced Harris Hill for the opening of the two-day fourth annual Soaring History Symposium on May 4-5, 2007. NSM Director Peter W. Smith welcomed about 125 community leaders and supporters at the opening event, the Community Soaring Luncheon. The luncheon is the National Soaring Museum's way of thanking the community and its officials for their support and encouragement during the previous year.

Greeting the "roomful of friends," Smith spoke briefly of the history of soaring contests and the Museum's partnership with the County, the State and the Harris Hill Soaring Corp. in fostering the County's rich place in aviation history. The training of pilots through soaring has led to careers in education, the military and commercial aviation, Smith said. Representing HHSC, past president Jim Webb talked about the partnership between NSM, the Harris Hill Soaring Corp. and its junior membership when teenagers begin their flying apprenticeships.

Discussing the "unique relationship" between the soaring community and Chemung County, New York State Senator George H. Winner said, "such a thing doesn't happen anywhere else." He said that the community's focus on soaring led to the distinguished career of retired astronaut Eileen Collins, who in 2005 became the first woman space shuttle commander.

Chemung County Executive Tom Santulli spoke on the importance of soaring as a tourist attraction for the whole area. "We have something that no one else has... It brings people from all over the world," he said. Santulli said that he feels good about what is happening in the area and that "soaring is a great piece of this community. With developments in the commercial area as well," he added, "in the next five to ten years this community will bounce back as you have never seen it before."

"A Brief History of the Soaring Society of America" Peter W. Smith

Following the luncheon the 50 Symposium reg-

istrants met in the museum's Blossom Gallery for the afternoon's first speaker, NSM Director Smith on "A Brief History of the Soaring Society of America." (Smith originally delivered this paper at the February 2007 SSA Convention in Memphis, TN.)

Smith opened by quoting from Gliding and Soaring Bulletin No. 1, published in April 1932, announcing the founding of the American Soaring Association, "To All Who Believe in Motorless Flight in America."

The second Bulletin proclaimed, "The strictly non-profit organization set up by a group of soaring pilots and others interested in the sport for the sole purpose of assuring a 1932 soaring meet to be known henceforth as THE SOARING SOCIETY OF AMERICA. The former name was found to be in use by another group." Smith noted that there had been other glider organizations prior to the SSA. The first was the "Mohawk Aerial Navigation Company (Ltd.)." It was founded in 1894 at Schenectady, NY, by a group of General Electric engineers headed by Charles Steinmetz, the developer of alternating current. Smith quipped, "Their aerial achievements were indeed limited and somewhat reminiscent of Monty Python's flying sheep episode. 'Would you call that flying?' 'No, I'd say it was more of a plummet.'"

The Evans Glider Club, formed by Detroit financier Edward S. Evans in 1928, became the National Glider Association. Plagued by financial shortfalls following the 1929 stock market crash, the NGA was dissolved in 1931. Despite depressive economic and social conditions, national contests were held in Elmira under the sponsorship of the Elmira Association of Commerce, but the need for a strong authoritative group was apparent and crucial to conducting future competitions.

Smith said, "So a group of pilots and those vitally interested in soaring flight met in New York City in February 20th, 1932, and formed an organization known today as the Soaring Society of America." It was initially organized solely and specifically to conduct soaring contests, which prompted the observation that "If SSA is or has been too focused on competition, it is by no means a recent development."

The SSA was incorporated in Delaware. It had a 15-member board of directors, and its first president was Warren Eaton, a successful business executive and enthusiastic glider pilot who had flown in both the 1930 and 1931 national contests.

“The 1932 contest was successfully staged and was won by Jack O’Meara in his Chanute sailplane. The junior champion was Stan Smith, my father, who flew the [Franklin] PS-2 ‘G451 Yankee’ that was on display at the recent SSA convention and is soon to be exhibited at the NSM.”

SSA joined ISTUS (International Study Commission for Motorless Flight), eventually superseded by the Federation Aeronautique Internationale, the world soaring organization that enabled the SSA to issue badges.

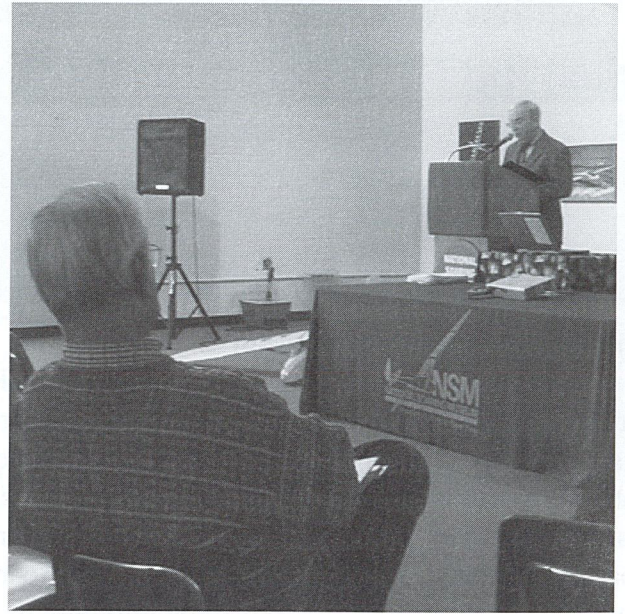
After the tragic death of Eaton in 1934, Ralph Barnaby, one of the outstanding figures of soaring history served several terms as president intermittently through the ‘30s and ‘40s. Smiling, Smith said, “I think he became president almost as many times as he got married.”

The year 1935 saw the first election of directors by the membership, and in 1937 *Soaring* magazine was first published, replacing the mimeographed *Gliding and Soaring Bulletin*. “At Richard duPont’s behest, the SSA’s charter was changed, making it a tax-exempt educational institution for the promotion of gliding and soaring. Lewin Barringer was elected general manager and the new executive office was in Philadelphia. In May 1937, the SSA adopted a joint operating plan with the National Aeronautic Association that secured the SSA’s position as the representative body in the United States for motorless flight.

Henry Wightman became general manager in 1939 and the SSA was moved to Washington, DC. Smith said that the 10th National Contest was held that summer and was his first experience as a crew member: “I’m sure, at the age of 15 months, I was a big help.”

Though still growing in 1940, and with record breaking pilots like John Robinson and Dick Johnson, the SSA was experiencing financial problems. Earl Southee took over as president, while secretary Floyd Sweet took over running the office and editing *Soaring* which became a bimonthly publication until 1959.

With German gliders being deployed in the maelstrom of war raging in Europe, the Army Air Force began investigating the development of gliders. Army, Navy and CAA officials were impressed with a special glider demonstration sponsored by the SSA, The Elmira



Peter Smith opens the Soaring History Symposium with a history of the SSA.

Area Soaring Corporation and Schweizer Aircraft, at the Big Flats Airport on April 26, 1940. Featured was a triple tow of three Schweizer TG-2s by a J-5 Standard plane.

While a 1941 National Contest was held, by that time many soaring people were in uniform. In July the SSA Board met for the last time until after the war. *Soaring* continued publication relying on a succession of volunteer editors.

The year 1946 saw a reconstituted Board with the election of 20 directors for staggered terms of up to three years. Mindful of the SSA’s geographical diversity, they elected Ben Shupack East Coast vice president and Dr. Wolfgang Klemperer West Coast vice president.

On a personal note, Smith mentioned that in his former career in classical music, it was Dr. Klemperer’s cousin Otto who was famous as one of the 20th century’s greatest conductors. “One night backstage at Carnegie Hall, I met Otto’s son, Werner, Col. Klink [of the TV show ‘Hogan’s Heroes’]. Of course, most people wanted to talk to him about his father or ‘Hogan’s Heroes,’ but when I mentioned to him that his cousin Wolfgang and my father were good friends, I had his total attention for fifteen minutes... a delightful conversation.” When Smith met Wolfgang’s son Walter a few years ago, they enjoyed comparing their Klemperer connections.

In 1947 Richard Comey was hired as general manager and editor. “He was so happy to get a job that he hopped in his 1-21 and won the national contest at Wichita Falls, TX. He was also the first recipient of the duPont trophy, which is still in circulation and is awarded to the Open Class Champion.” That centrally-located

contest, with 65 sailplanes and 80 pilots, showed the SSA to be truly national, rather than Eastern-oriented in scope. A total of 40,000 cross-country miles were flown.”

The SSA’s chapter membership was introduced in 1949, as well as the appointment of state governors. The Diamond C was introduced that same year by the FAI.

In 1950, encumbered by slow membership growth and a financial crunch, the Board eliminated the general manager’s position. It divided the responsibilities between the secretary, Paul A. Schweizer, and the editor, Eugart Yerian, and shifted the headquarters from Cambridge, MA, back to Elmira.

By 1957, the all-volunteer SSA was down to a lean 650 active members. That same year, amid an organizational restructuring, Lloyd Licher was hired as full-time executive secretary, with Paul A. Schweizer elected president. Headquarters was again moved, this time to Santa Monica, CA. It was the beginning of a ten-year annual increase of 500 new members, and the return of *Soaring* to a monthly publication schedule.

Group liability and hull insurance for SSA members was introduced in 1958, as was the ABC Badge program. Aviation writer and a glider pilot since 1929, Alex Dawydoff became *Soaring*’s first full-time editor in 1964.

Membership was up to 8,200 in 1968, and the Board voted that Harris Hill should become the site of the official SSA museum, library and archives.

The SSA’s 40th Anniversary was celebrated in 1972 at the 1st National Soaring Convention. A controversy arose over the acceptance of hang gliders under the SSA umbrella, with the Board generally against. Ultimately, the Board let the hang glider movement go its own way.

A new SSA “affiliate” membership category was created in 1974, and the National Soaring Museum became the first the following year. After 20 years as Executive Director, Lloyd Licher resigned and was replaced by Forrest Blossom in 1977, with John Dezutti as Operations Manager. The following year the SSA created another new membership classification, the “division.” The 1-26 Association was the first, and in 1979 the Vintage Sailplane Association became the second.

That same year, the FAA proposed airspace rules that would have shut down soaring and a lot of other private aviation as well, in much of the nation. “SSA teamed up with the Experimental Aircraft Association and the Aircraft Owners and Pilots Association to successfully fight the proposal with a letter-writing

campaign that resulted in the largest letter response ever received by the FAA.”

1980 was the 50th anniversary of the first National Gliding Contest, and also the speaker’s father (Stan) as a competitor. “I hadn’t any involvement in soaring since 1957,” Smith said, “but I had a lot of vacation time, so I called him up and asked if he would like me to crew for him.” With a knowing glance at Symposium attendees, Smith reflected, “I realized that dealing with symphony conductors for many years had prepared me well to crew for a contest. On my way home I stopped at an airport nearby and took my first flying lesson.”

Two years later marked the 50th anniversary of the SSA, with a glider mail flight, an anniversary exhibit at the NSM, a Vintage Sailplane Regatta and the dedication of sculptured soaring birds by Ernie Schweizer mounted alongside the NSM entrance.

Smith said that most of what was related in his talk “and much more” could be found in Paul A. Schweizer’s book, *Wings Like Eagles*, a summary of the first 50 years of the SSA. “After Paul passed away,” Smith said, “129 cartons of books, papers, and other artifacts came to the NSM. I reckoned at the time that this increased the volume of the NSM archives by about 40%.” He said that it would be doubtful if any of us had the recall or the resources to put it all together the way Paul did.

The speaker looked out over the audience and said that the whole story isn’t to be found just in the pages of *Soaring* or in the minutes of Board meetings, but also in oral history interviews of Hall of Famers, the SSA and NSM websites, and many other sources.

Smith closed by saying, “I’m not going to try and relate to you the story of the last 25 years as I have the first 50. But as Director of the National Soaring Museum, the official archive of the Soaring Society of America, I’m committed to figuring out how Paul A. Schweizer’s good work can go on, so that the continuing story of soaring in America doesn’t go untold.”



Silhouette icon used in the earliest Soaring magazines, left; Present logo of the SSA, right.

“OSTIV - A Cradle of Soaring History”
Prof. Doc. Edward E. “Ward” Hindman

Scientific information available to soaring pilots through the Organization Scientifique du Vol a Voile (OSTIV), the international technical organization for motorless flight, was presented by Prof. Doc. Ward Hindman, a professor of meteorology at the City College of New York and OSTIV’s Chief Editor.

OSTIV was founded in 1948 replacing the International Study Commission for Motorless Flight (ISTUS). The philosophy of ISTUS was “exchanging the experience and friendly cooperation among the specialists and pilots of all nations engaged in soaring.”

The mission of OSTIV is to encourage and coordinate internationally the science and technology of soaring and the development and use of the sailplane in pure and applied research.

Hindman said that his purpose was to acquaint attendees with OSTIV’s rich heritage, “and hopefully encourage you to join.” He said, “OSTIV’s extensive publications, particularly *Technical Soaring*, are filled with priceless history... and a lasting record of the science and technology of motorless flight.” Hindman was introduced to *Technical Soaring* while browsing through the shelf of fellow glider pilot and friend Jerry Kaufman in the early 1980s. “Many of the authors of that time are still productive in soaring and meteorology,” he said.

“OSTIV is a breath of fresh air,” Hindman said, “with members throughout the world who are eager to help one another.” Congresses are held every two years, the 29th planned for 2008, at the world soaring competition in Germany (Fig. 1). Expert panels are charged with keeping OSTIV, as well as the International Gliding Commission (IGC), current with matters in their disciplines. For example:

* The Meteorological Panel (Chair, Dr. Hermann Trimmel, Austria) World Meteorological Organization (WMO) “Handbook of Meteorological Forecasting for Soaring Flight.” The update reflects progress achieved in the last decade as a result of the numerical weather predictions. A 2009 distribution is planned.

* The Sailplane Development Panel (Chair, Dr. Ing. Michael Rehmet, Germany) is currently engaged in helping specify the new airworthiness standards for the European Union.

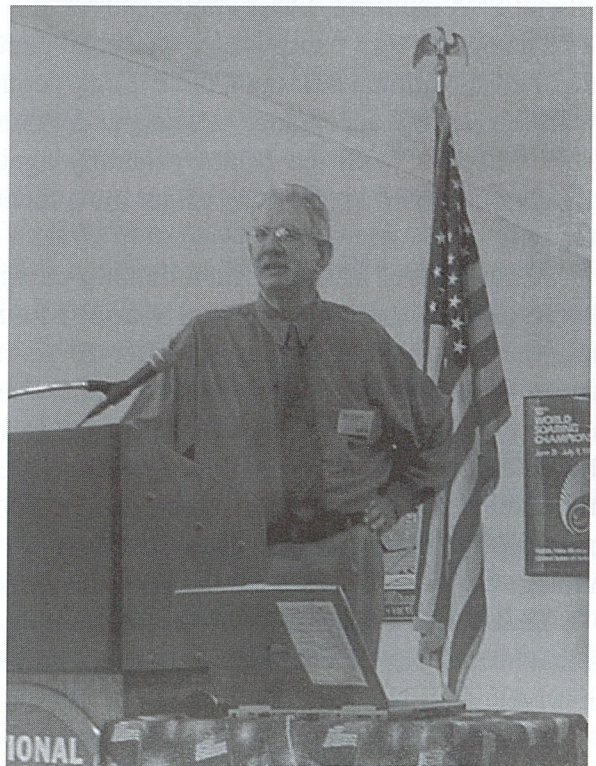
* The Training and Safety Panel (Chair, Dipl. Ing. Ian Oldaker, Canada) is currently developing a generic set of operating procedures for national gliding organizations.

The panels met during the congresses, as well as other times and places throughout the world. “For example, the Meteorological Panel, of which I am a member, will be meeting this September in St. Auban, France, to fly... I mean, to validate our forecasts... as well as continue revision of the WMO Handbook,” Hindman said.

Manfred Reinhard, the previous OSTIV president, has produced an index of OSTIV publications, which is on the OSTIV website (Fig 2). It lists the contents of all OSTIV publications as well as the contents of *Technical Soaring (TS)* for 1986 (Vol. 16) through 2004 (Vol. 24). Courtesy of John Leibacher, the contents of *TS* from 1971 on (Vols. 1-24) are available on Leibacher’s website.

TS has been published through January 2007 (Vol. 31, No. 1). The issues from 1987 to the present have yet to be listed. If anyone is interested in a reprint of a *TS* article, Hindman said he has a complete set and would scan the article for anyone who wishes to contact him by e-mail (Fig. 3).

“I invite you to download the OSTIV index and explore it to see what ‘historic nuggets’ you can find. Many of the world’s legends have contributed to the OSTIV over the years,” he said.



Prof. Doc. Ward Hindman.

Fig. 1 List of OSTIV Congresses



Congresses

I	OSTIV-Congress, Samedan, CH	27 July 1948
II	OSTIV-Congress, Paris, F	3 - 7 May 1949
III	OSTIV-Congress, Örebro, S	3 - 6 July 1950
IV	OSTIV-Congress, Madrid, E	3 - 13 July 1952
V	OSTIV-Congress, Buxton, GB	22 July - 4 August 1954
VI	OSTIV-Congress, St. Yan, F	6 - 13 July 1956
VII	OSTIV-Congress, Osieczna, PL	19 - 29 June 1958
VIII	OSTIV-Congress, Cologne, D	4 - 18 June 1960
IX	OSTIV-Congress, Junin, RA	11 - 21 February 1963
X	OSTIV-Congress, South Cerney, GB	4 - 12 June 1965
XI	OSTIV-Congress, Leszno, PL	12 - 23 June 1968
XII	OSTIV-Congress, Alpine, TX, USA	27 June - 4 July 1970
XIII	OSTIV-Congress, Vrsac, YU	13 - 22 July 1972
XIV	OSTIV-Congress, Waikerie, AUS	21 - 27 January 1974
XV	OSTIV-Congress, Räyskälä, FIN	18 - 27 June 1976
XVI	OSTIV-Congress, Chateauroux, F	18 - 30 July 1978
XVII	OSTIV-Congress, Paderborn, D	27 May - 6 June 1981
XVIII	OSTIV-Congress, Hobbs, NM, USA	29 June - 9 July 1983
XIX	OSTIV-Congress, Rieti, I	2 - 10 August 1985
XX	OSTIV-Congress, Benalla, AUS	21 - 30 January 1987
XXI	OSTIV-Congress, Wiener Neustadt, A	18 - 26 May 1989
XXII	OSTIV-Congress, Uvalde, TX, USA	1 - 9 August 1991
XXIII	OSTIV-Congress, Borlänge, S	17 - 24 June 1993
XXIV	OSTIV-Congress, Omarama, NZ	12 - 19 January 1995
XXV	OSTIV-Congress, Saint-Auban, F	3 - 11 July 1997
XXVI	OSTIV-Congress, Bayreuth, D	6 - 13 August 1999
-	OSTIV-Seminar, Mafikeng, ZA	15 - 18 December 2001
XXVII	OSTIV-Congress, Leszno, PL	30 July - 6 August 2003
XXVIII	OSTIV-Congress, Eskilstuna, S	8 - 15 June 2006
XXIX	OSTIV-Congress, Lüsse-Berlin, D	2 - 16 August 2008

Earlier volumes
have been scanned
and may be
available from
OSTIV (TBD).

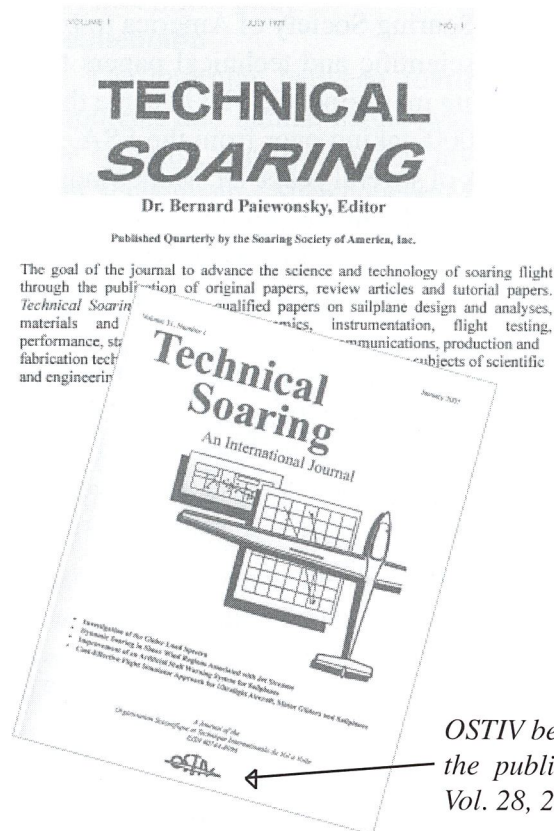
Earlier papers
available from
Hindman; a
public listing of
the papers at
soaringweb.org

Available
through
Vol. 31 No. 1
January 2007

OSTIV PUBLICATION	VOL.	PLACE & YEAR NO	MEMBER PRICE	NON-MEMBER PRICE
OSTIV Publication	XI	Alpine 1970	8 EUR	9 EUR
OSTIV Publication	XII	Vrsac 1972	13 EUR	16 EUR
OSTIV Publication	XIII	Waikerie 1974	13 EUR	16 EUR
OSTIV Publication	XIV	Räyskälä 1976	16 EUR	23 EUR
OSTIV Publication	XV	Chateauroux 1978	18 EUR	25 EUR
OSTIV Publication	XVI	Paderborn 19 81	23 EUR	28 EUR
OSTIV Publication	XVII	Hobbs 1983	23 EUR	28 EUR
OSTIV Publication	XVIII	Rieti 1985	23 EUR	28 EUR
Technical Soaring 1986	Vol. 10	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1987	Vol. 11	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1988	Vol. 12	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1989	Vol. 13	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1990	Vol. 14	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1991	Vol. 15	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1992	Vol. 16	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1993	Vol. 17	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1994	Vol. 18	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1995	Vol. 19	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1996	Vol. 20	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1997	Vol. 21	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1998	Vol. 22	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1999	Vol. 23	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 1999	Vol. 23	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 2000	Vol. 24	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 2001	Vol. 25	No. 1-4; Each No.	8 EUR	9 EUR
Technical Soaring 2002	Vol. 26	No. 1-4; Each No.	8 EUR	9 EUR
Static Stability and Control of Sailplanes (Author: Prof. Dr. Piero Morelli)			23 EUR	23 EUR
WMO-Handbook of Meteorological Forecasting for Soaring Flight		Revised Edition June 1993	21 EUR	21 EUR
OSTIV Flying Training Seminar Sweden 1993		July 1993	6 EUR	6 EUR
OSTIV Flying Training Seminar Sweden 1998		August 1998	6 EUR	6 EUR
OSTIV Airworthiness Standards OSTIVAS			12 EUR	12 EUR
OSTIV Airworthiness Standards For Sailplane Parachute Rescue Systems		October 1996	6 EUR	6 EUR
OSTIV Publications "INDEX 2005"		November 2005	6 EUR	6 EUR

Fig. 2 Publications currently listed on OSTIV website

Fig. 3 Technical Soaring Past and Present



OSTIV became
the publisher with
Vol. 28, 2004.

Turning to the history of *Technical Soaring*, he said the first issue was published in 1971 to answer a need within the Soaring Society of America to provide information on scientific and technical papers too involved for *Soaring* magazine. OSTIV became the publisher of *TS* in 2000, taking over from the SSA, after a publication break of several years. Dr. Mark Maughmer, Chair of the OSTIV Technical Section, and Bernald S. Smith, the OSTIV *TS* Coordinator, “worked tirelessly and unselfishly to help catch up in the non-publishing gap,” Hindman said.

The publication is sent to 32 countries. Germany, with the most glider pilots per capita, has the highest number of members, with the United States—the originator of *TS*—a close second. Included among the countries where the journal is sent are Argentina, Iceland, India and Monaco.

Hindman said that plans are underway to make the journal even more useful. “For example, we need a place where glider homebuilders can express their work...so we will welcome such papers. Here is the team that we have assembled to produce *TS*.” (Fig. 4)

They know the experts in their specialties, who to ask to review and to publish,” he said. “If you are ever called on to either review or prepare a manuscript, please volunteer, and produce a timely review or manuscript. It’s your sacred professional duty, in my opinion,” he added.

Hindman said that their most pressing need is a proofreader to work with him to produce the most accurate issues possible. “As a result of this talk I now have three volunteer readers!”

Here are the plans to make the journal even more useful. There will be a section for peer-reviewed articles.

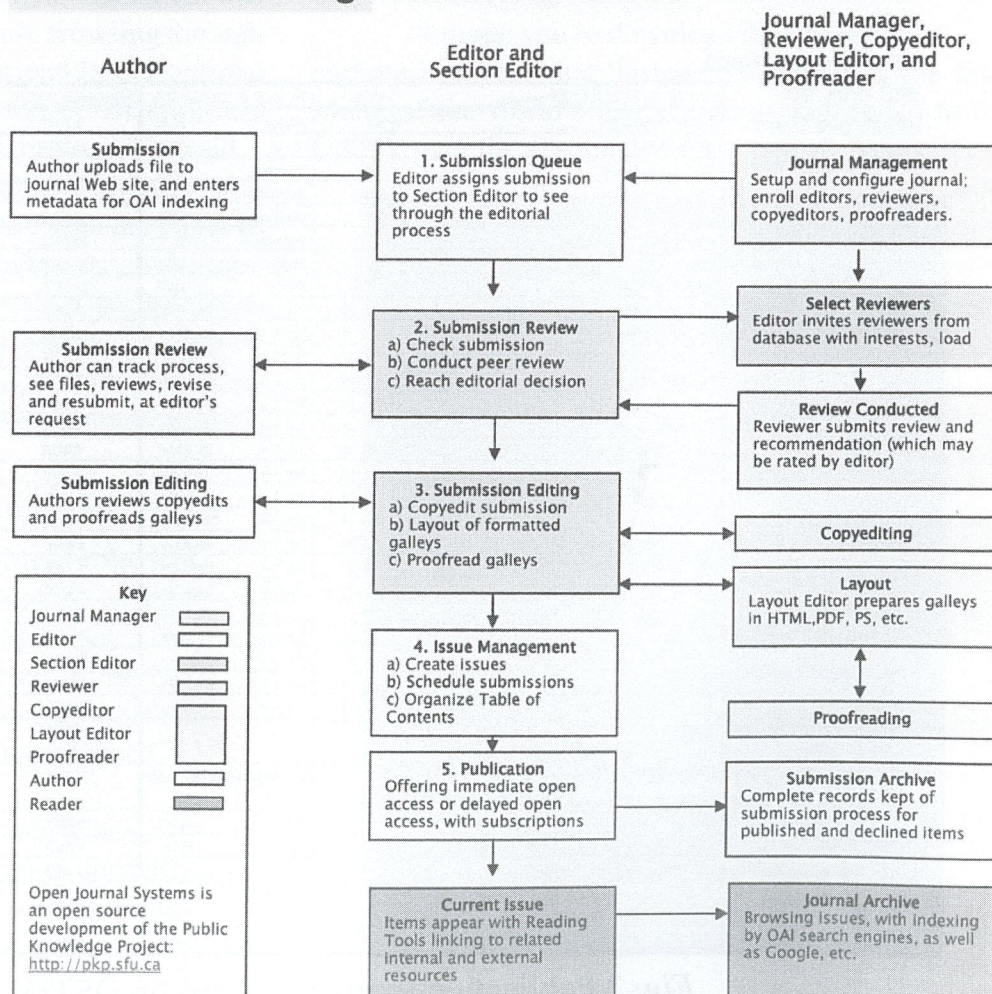
Fig. 5



Fig. 4 Technical Soaring Staff

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Technical Soaring Workflow Chart



These articles are authoritative and document the state-of-knowledge and state-of-techniques. These papers move the science and technology forward as investigators ‘stand on the shoulders’ of previous successful investigators.

“Also, we will have a space in *TS* for investigators who do not require peer review. These investigators may want to get a ‘reading’ of an innovation, for example. I believe we need a place where a home-builder can express his work,” Hindman said. Such papers will be welcome. He mentioned that these papers will be reviewed by an associate editor to make sure they are not totally ‘off the wall.’ (Fig. 5)

OSTIV’s goal is to have the publication achieve “learned journal status,” he said. “Such rank would allow, for example, academicians to receive ‘credit’ for their publications and would increase the number of submissions.

Recently, Hindman contacted a potential author to encourage submission of the scientific and technical aspects of a world record flight. He was politely rebuffed: “we will submit to larger circulation.” Hindman said that he looks forward to the day when that investigator submits work to *TS* because it has become the premier learned journal for motorless flight.

He made the point that *TS* must become web-based too, not only to assist in the preparation of the issues but for OSTIV members to have easy access to current issues. “We must work toward becoming paperless,” he said. (Though print copies will still be available.)

Hindman said that by becoming web-based, “we have the duty to archive OSTIV publications and *Technical Soaring* issues so that OSTIV becomes the world’s library for soaring knowledge.” The ‘Public Knowledge’ project provides the framework for such a web-based publication. It will cost OSTIV around \$800 yearly to maintain and modify the OSTIV website.

In his summation, Hindman said, “The OSTIV is the ‘glue’ for soaring history and knowledge through its congresses, expert panels, and unique publications. I invite you to become involved in this worthy organization. All persons passionate about soaring are encouraged to support and join the OSTIV (41 EU/yr). Please submit manuscripts! Thank you.”

Guidelines for submission are available at www.ostiv.fai.org. Technical Soaring articles are available from John Leibacher’s website at soaringweb.org, or for article reprints, contact Ward Hindman via e-mail at hindman@sci.ccny.cuny.edu.

“Neural Processing Speed: Relevance to Soaring History and SSA Policy”

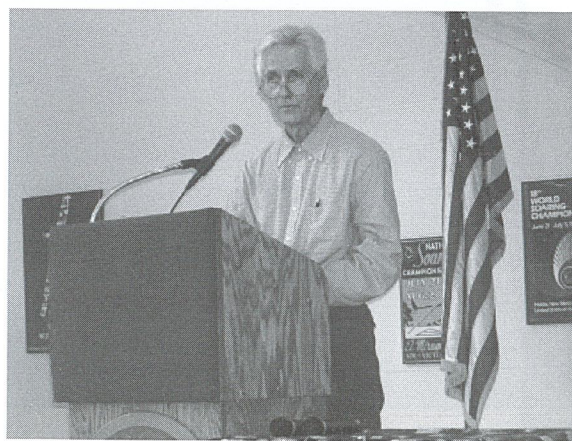
Wil Schuemann

The interplay between soaring technological developments and human nature was the subject of a talk by scientist, aerodynamicist, inventor and writer Wilfred Schuemann. “Such concerns have been largely ignored even though they helped determine the nature of soaring today.” After delivering his Symposium talk, later that Saturday evening Wilfred Schuemann was inducted into the United States Soaring Hall of Fame.

“An understanding of that interplay would compliment existing soaring activities, increase participation in soaring, and allow a broader cross-section of our culture to become involved in soaring,” he said.

Along with the dramatic development of low speed technology during the last four decades, there has been an equally dramatic development in our ability to measure the many forms of human mental capability. He said that this latter work is not complete, but far more is known than has appeared in popular literature. “We will specifically be concerned with the form of mental capability known as visual-spatial skill,” he said. In this case the focus is on the visual-spatial skill speed of a pilot’s ability to quickly handle and correlate problems arising in flights.

As an example he described a situation in which a sailplane pilot is on final for a landing on a rolling field which is downwind of an assortment of trees, and with strong gusts embedded with thermals. A “simplistic” listing of variables would include: (1) unpredictable varying left-right forces; (2) the up-down forces on the sailplane are varying unpredictably; (3) degree of yaw is varying; (4) the path of the sailplane is unlikely to be consistent with the sailplane’s apparent direction; (5) the operation of the dive brakes changes the descent rate of the sailplane; (6) the attitude of the sailplane is varying with



Wil Schuemann.

associated changes in energy management and glide path; (7) the terrain being approached is irregular; (8) at touchdown roll and yaw requirements for a successful roll-out become important; and (9) the ditch which suddenly becomes visible at the intended touchdown point requires quickly solving the problem all over again.

The ability to measure such a large number of interactive visual-spatial variables is not equally present in all humans.

As is true of most mental skills the human population is described by the familiar bell curve shown in **Figure 1**. It indicates relatively few humans with high visual-spatial skills, and relatively few humans with low v-p skills, with the middle majority being average.

“This is a critically important distinction,” Schuemann said. “Greater visual-spatial skill primarily means the individual can solve the same problem the person with less visual-spatial skill can solve, but will be able to solve that problem faster.”

Studies have shown that the vast majority of people have average visual-spatial skills, with relatively few humans having high levels (**Figure 1**). Flying a sailplane requires a higher skill level. In the landing situation that Schuemann described, if the sailplane had a lower wing loading, thus a lower approach speed, the pilot would have more time to solve the problem, allowing a safe landing.

When soaring began to evolve in the early 1960s to its present form, the most popular training ship was a Schweizer 2-22, while the most popular single-seat ship was the Schweizer 1-26. Both had low wing loading. Left of the vertical cutoff line shown in **Figure 3** shows safe operation of a low wing loading sailplane. “At that time, soaring appealed to a broad cross-section of the culture, with the entire family supporting the pilot’s activity. Contests were camping affairs at the airport, and socializing the norm. Those 4 pound per square foot wing loaded sailplanes could be safely and enjoyably flown by a relatively high percentage of the population,” Schuemann said.

That started to change in the mid-1960s with the availability of factory-produced wood, metal and fiberglass sailplanes. These ships featured wing loadings of 6 pounds per square foot and sometimes higher. **Figure 2** shows a critical vertical cut-off point for a pilot flying a high wing loading sailplane. In general, those humans to the right of that line can fly a high wing loading sailplane while those to the left cannot safely fly such a sailplane, and would not find flying it enjoyable.

Fibreglass eventually proved superior. These higher wing loading fiberglass ships could climb with the lower performance low wing loading sailplanes. “With nearly double the glide ratio and much improved high speed performance, they allowed for dramatic increases

Figure 1, standard distribution of visual-spatial processing skill.

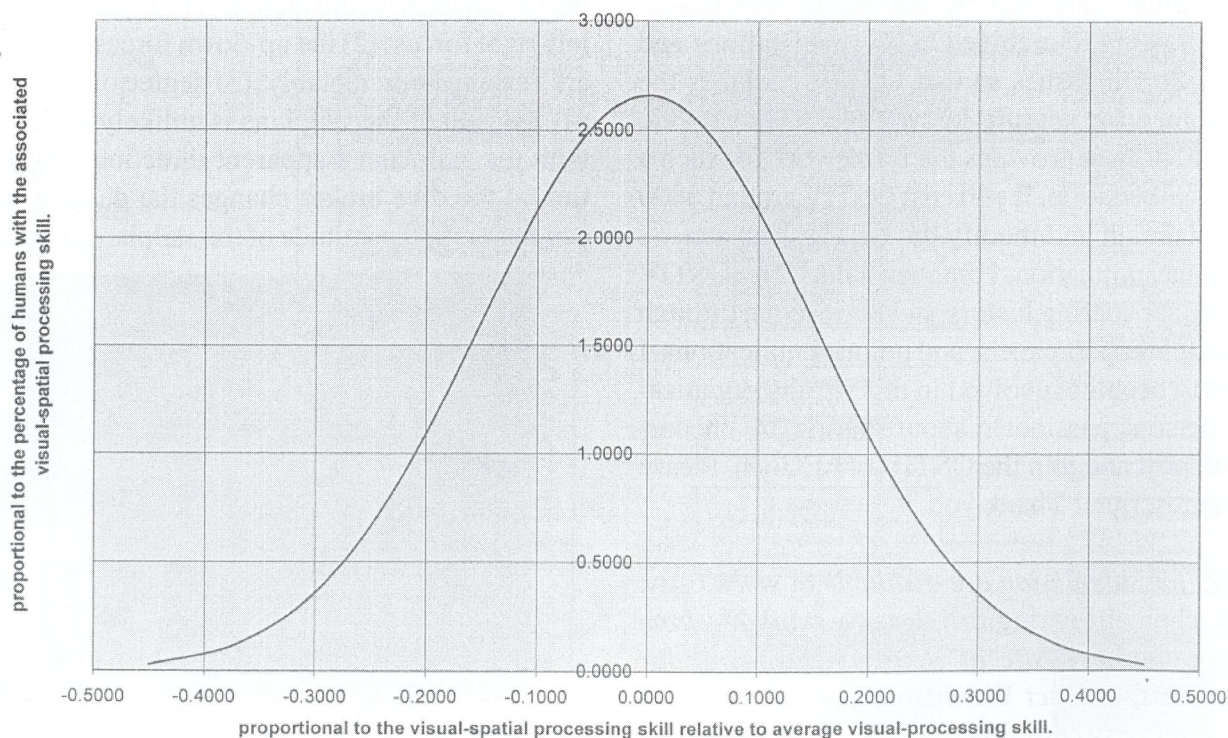


Figure 2, standard distribution of visual-spatial processing skill showing a cutoff value for safe operation of a high wing loading sailplane.

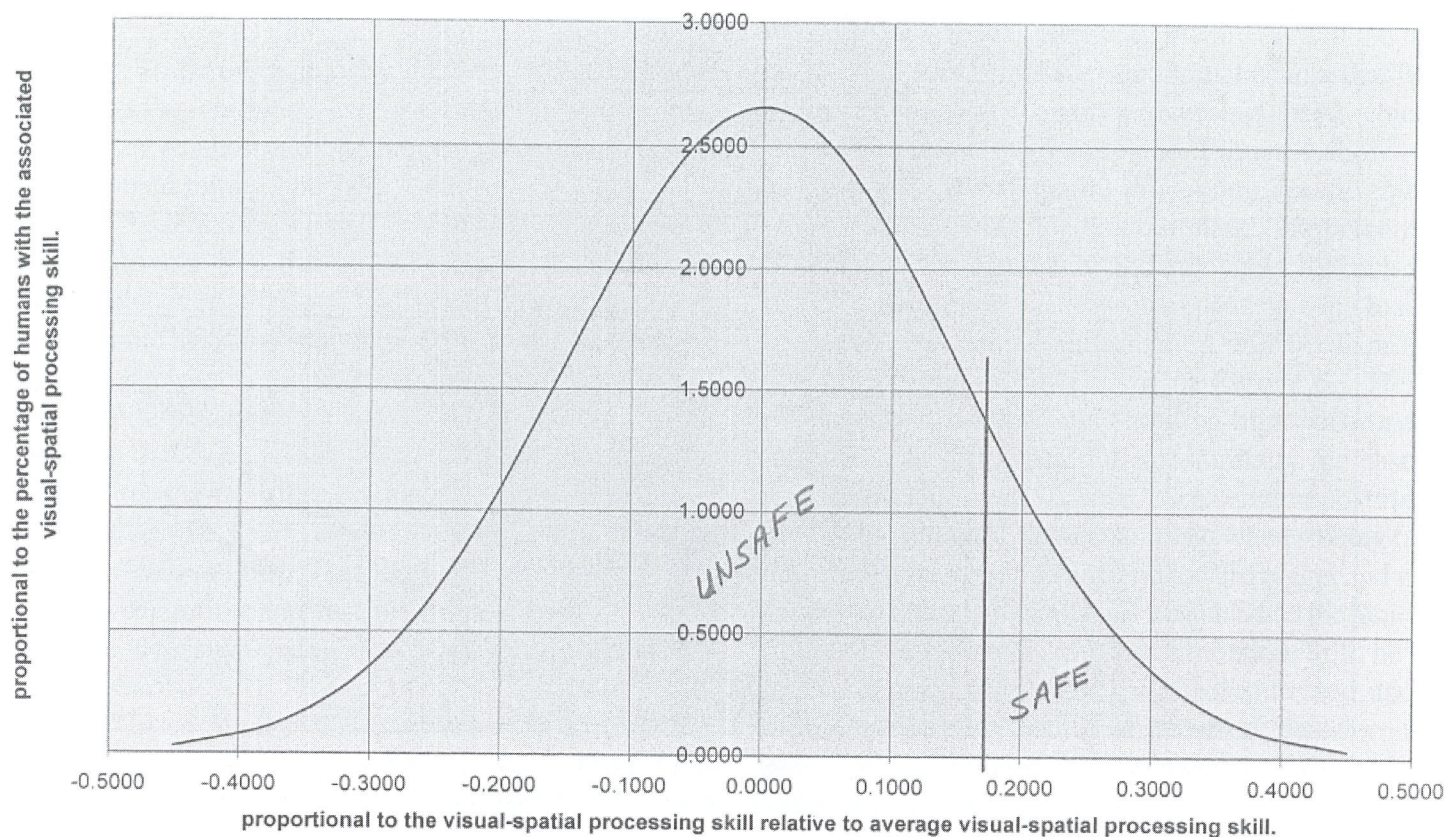
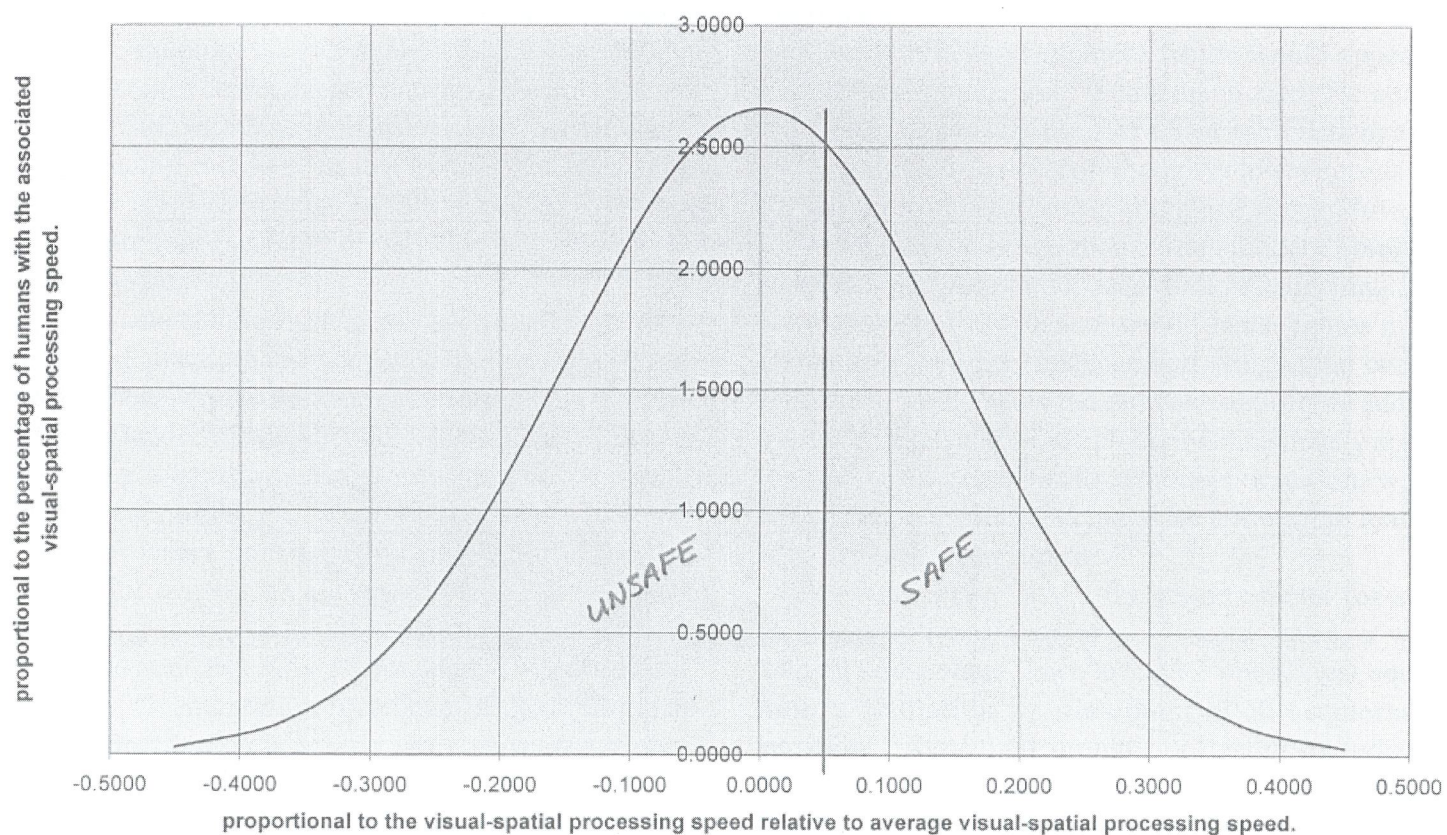


Figure 3, standard distribution of visual-spatial processing speed showing a cutoff value for safe operation of a low wing loading sailplane.



"From the Golden Age of the 1960s to the Modern Era"
**George Moffat and Karl Striedieck; Paper submitted
by Doug Jacobs, read by George Moffat**

The first speaker at Saturday afternoon's Fourth Annual Soaring History Symposium was George B. Moffat, a man who literally "wrote the book" on soaring. If you have ever had any intentions of becoming a winning sailplane pilot, or just a competent "out and returner," Winning on the Wind should be a premier read. Aside from having written over 80 articles on soaring and sailing, Moffat set two world soaring record and, won two World Soaring Championships, four National Soaring Championships, The Smirnoff Transcontinental Race, and the Coupe d'Europe (European Championship). He taught at Rutgers Prep School and Rutgers University, and was head of Pingry School's English Department.

"The 1960s through the early Eighties have often been called the Golden Age of Soaring, particularly in reference to the remarkable leaps made in sailplane design during that period," Moffat said. The World Championship in 1960 was won by a Skylark III, "the absolute state-of-the-art of its day, wood and fabric, reaching an L/D of 32-1 with an 18 meter span." Moffat said that by the end of the decade fiberglass was totally dominant, with L/Ds in the high 40s, with only two ships exceeding 18 meter wing spans. By the early Eighties, carbon fibre had largely supplanted glass, allowing spans of 25 meters and at least one ship with a carefully measured L/D of over 60-1.

At that time there was an infusion of young, eager pilots who would stretch the perceived limits of what was possible in setting records and contest performance. He mentioned Rudy Alleman, Tom Beltz, Ross Briegleb, Dick Butler, Ben Greene, Ray Gimmey, Doug Jacobs, Eric Mozer, George Moffat, Mike Opitz, Wally Scott, John Seaborn, and Dick Schreder; Gold and Silver US Team members A.J. Smith, George Moffat, Doug Jacobs, Karl Striedieck and Tom Beltz. Others, such as Wil Schuemann and Dick Butler, were high notables for their contributions to design and sailplane improvement.

George Moffat reads a paper by Doug Jacobs

Moffat commenced his reading of a paper by Doug Jacobs entitled "The Diamond Anniversary Celebration of U.S. Soaring: The Golden Era from the Sixties to Modern Times." Jacobs wrote, "It is my great pleasure to be part of this forum, if only in absentia, and to share the program with the likes of George Moffat and Karl Striedieck. It is well that we are prompted to

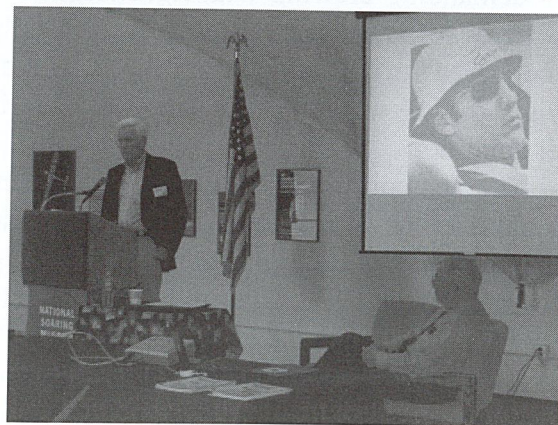
look back on where we've been. My thanks to the National Soaring Museum for making this gathering possible." The following is excerpted from Jacobs's paper.

Noting "The Golden Era from the Sixties to Modern Times," Jacobs said that he was forced to reckon with the grim reality that many in soaring may consider these panelists as historical figures, rather than the young energetic rascals who just know that they have a great many great soaring days ahead of them. If that excitement can be passed along to the next generation of racing pilots, "maybe being considered an old fart isn't so bad after all."

He mentioned the "careful guidance" of George Moffat's Winning on the Wind as the inspiration for him and for many who otherwise would not have been motivated to explore the limits of the new-generation equipment and technique following the introduction of composites to glider design. Jacobs got into soaring in the mid-70s "at a time Moffat and Striedieck were household words. They were (and still are) my heroes and much of the style and technique utilized by competition pilots in the 80s and 90s originated with them."

Jacobs's racing experience started in the early 80s, at a time when the second generation of glass ships with much improved airframes like the LS-4, Discus, Ventus, and ASW-20 were becoming available. "They were more 'honest airplanes,' willing to do what you wanted them to do with fewer nasty surprises in store for the unwary." He said that this trend has continued through the 90s and into this century. "The delightful handling of the LS-6, Ventus B/C or ASW-27 almost enables the pilot to forget the basic mechanics of flying a glider and to concentrate on getting the most out of a soaring day. He praised the emergence of the highly capable two-place ship: the Twin Grob, ASK-21, and later the Duo Discus and the DG 1000.

In his paper, Jacobs asked how much did the raw performance of these second and subsequently



George Moffat speaks; Karl Striedieck on screen.

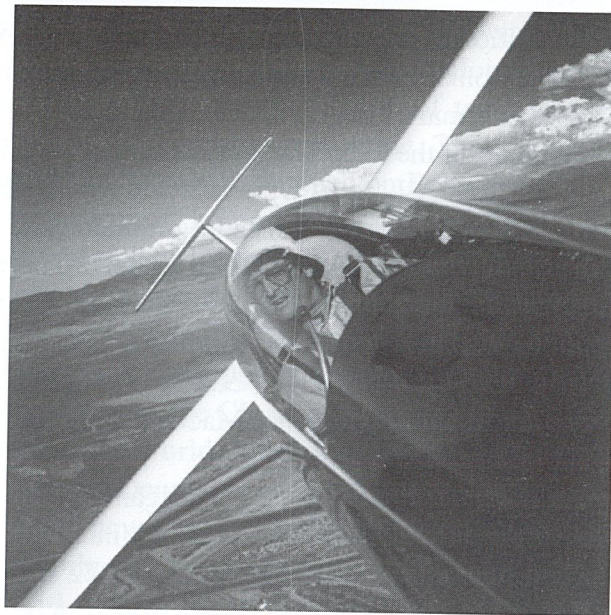
third generation glass ships improve? “Increasingly less, I’m afraid. More and more effort is being made to tune designs which resulted in less and less improvement—the classic ‘diminishing returns’ of Economics 101.” New designs saw heavier wing loadings through the introduction of bigger ballast tanks, thin airfoils to better carry the weight, and winglets—but not a great deal of fundamental change in the design itself. Jacobs stressed that due to the sliver of difference in similar class competition sailplanes, “gliders just are not the primary determinant of competition success that they used to be.”

This has been a highly significant realization because it led to relatively less concentration on glider performance and much more on pilot technique as a means of winning competitions. By the second and third generation of glass ship design the pilot factor became much more important than the glider factor. Pilots recognized that they had to become students of technique and to practice endlessly if they wanted to win or be successful cross-country. And the first step according to Jacobs was to master the literature of soaring: Winning on the Wind, Soaring Symposia proceedings, Reichmann’s Streckensegelflug (Cross Country Soaring), and Competing in Gliders by Briglitori (English translations) are all recommended. “A further lesson was that pilots should get out of the shop, or put down that brochure, and go out and fly.”

Jacobs reviewed the complicated subject of competition tasking. At the Rieti, Italy, World Championships and led by the U.S., a variety of new pilot option tasks was introduced. These tasks basically gave the pilot a certain amount of time to race and left it up to him/her where to go next, either to another turnpoint or within a large area. He said that “it is also true contests are won on weak days, not speed task days. Differences in pilots’ thought processes, decision making, ability to change gears, and discipline while underway, create much bigger point spreads on these days than on speed task days when turnpoints are given. Pilots emerging at the top of the score sheet during this period were particularly good at making decisions under these circumstances.”

Over the 80s and 90s, the first glide computers appeared and are now hooked into the GPS and able to compute just about anything during a cross-country flight.

Jacobs mentioned his familiarization flights with Walter Neubert who pointed out the techniques necessary for soaring over the challenging terrain at the 1985 Rieti World Contest. There, Jacobs won the Gold and teammate Eric Mozer, the Silver. Coaching worked and Europeans were very quick to pick



Doug Jacobs.

up on this lesson, “But sadly we have not done as much of this in the United States as we should have.”

Finally Jacobs concluded, “No survey of the period should be complete without mentioning the significant development of team flying.” The theory is that with two or more gliders working in tandem a wider swath of air is sampled, thermals are centered more quickly and decision making is improved by two pilots cross-checking by radio constantly. Though banned by U.S. racing rules, Jacobs wrote that it has become highly developed by international teams. “It is hard to ignore the issue and do the best we can when confronted with it in international competition. I don’t know.”

He wrote that “Ships are still important, but increasingly less so. Marvelous new tools have emerged to help the soaring pilot learn his craft. Soaring can be taught in the classroom, can be shown in the front cockpit of a Duo, and can be coached by more experienced teachers.” The more of this we in the American soaring community can conspire to create, the better pilots we will produce.”

George Moffat on A.J. Smith:

Next, Moffat gave a short biography along with his recollections of the late A.J. Smith. A.J. was born in 1924, in Tecumseh, MI. After model making in 1942 for NACA (now NASA), Smith flew carrier-based Corsairs during WWII. An architectural engineering graduate of the University of Michigan, he received many prize-winning awards for structures ranging from airport terminals to major office buildings. He took up gliding in the mid-fifties, and entered his first Nationals in 1957 with an LO-150 sailplane. Five years later he

won the Nationals in that same ship, much improved from perfectionist Smith's tweaking. He won again in 1967, with Leonard Niemi's state of the art Sisu. He was a member of the 1965 US World Team in England.

"In 1968 A.J. and I were selected as US Team Standard Class pilots, and we had a problem. The top ships had been snapped up by the Europeans. Through the good offices of Rene Comte in Switzerland, A.J. and I finally obtained two recently completed Pfenninger-designed S-4s built by Albert Neukom. A.J. flew brilliantly. Our first WGC win since MacCready in '56, and only our second ever," Moffat said.

A.J. was to make the US Team again in 1970 and '72, "both to lackluster finishes." He continued to compete in the Nationals until 1980, winning in '72 and '79. "His primary interest in flying often seemed to be ship preparation and improvements." In the early '80s, A.J. and Niemi built a two-place racer, the AJ-2, to compete in the EAA's new efficiency competition. "The most beautiful powerplane I've ever seen. It swept the competition for the five years it existed," Moffat commented.

Moffat said, "A.J. was an enigma. There were two separate A.J.s. One—and the only one many ever saw—was extremely intelligent, charming, urbane, cosmopolitan and friendly. The other, triggered often by contest pressure or a seemingly chance remark, was totally irrational, wildly aggressive, pathologically profane, and mean," he said. This gave rise to endless A.J. stories, "most of them understated." Moffat related a couple of A.J.sters that were modified for mixed company.

"His legacy to soaring?" Moffat postulated, "His perfectionism, especially in ship preparation and refinement, instructive during a time when many pilots made little effort to refine whatever came from the factory, often pretty crude in those days. His energy focused on flying to the exclusion of all other considerations."



A. J. Smith.

Moffat quoted AJ's statement from a Byars-Holbrook Symposium, "If you haven't made an important decision in the last 30 seconds, you're loafing!"

Karl Striedieck on Dick Butler:

Dick Butler's soaring history began at Eagleville, TN, 1968, at Garland Park's soaring operation. His first competition was in the Standard Class Nationals at Elmira's Harris Hill 37 years ago. "He flew in a (Moffat's old) Schempp-Hirth Standard Austria to a middle-of-the-pack finish, right next to my similar finish."

Butler's next ship was a Glasflügel Libelle that he modified. It was pictured and described in the September 1972 Soaring. From there in 1974, he flew an ASW-12 to fourth place in his first Open Nationals at Adrian, MI. "He won three Open Class Nationals between 1974 and 1982 flying a modified Glasflügel 604, the first better than 50 to 1 L/D glider," Striedieck said.

His next project was modification of Schleicher's open class ASW-17. Included in Butler's plan was a two-meter increase of the wingspan. Striedieck said, "Now there is an 'easy way' to increase the span, and that involves adding more wing to the tip. But to a perfectionist/aerodynamicist like DB, the only acceptable method is that which produces the maximum performance increase; and that meant adding span to the root. This involved making new spars, skins and controls."

He was on four US Teams between 1976 and 1982, and took a soaring sabbatical between 1984 and 1999 to focus on his career.

He had earned an engineering degree from Auburn in 1966 and a Master's in Aerospace Engineering at the University of Tennessee in 1972. In 1997, Richard W. Butler was recognized as a UTSI Distinguished Alumnus.

He reentered soaring, modifying an ASW-22 both structurally and aerodynamically, then flying it to victory in the 2003 Nationals. He won the Open Nationals twice since 1999, for a lifetime total of five, and a win ratio of 36%.

His current focus is the Concordia. "In cooperation with Gerhard Waibel and Loek Boermans, this ship represents more than an incremental notch up in performance. It will have an aspect ratio of 57 to 1 and a wing loading range from 8 to 12 lb./sq.ft., with an L/D > 70:1. This fall he will work with Waibel at Schleicher to build the spars."

Striedieck said that Dick Butler has a rare combination of talents that few people in the soaring world possess. "He has a solid knowledge of the engineering

and science of low speed aerodynamics, and the fabrication skills to implement very complex and exacting projects. He works with a single-minded, no-compromise attitude toward any endeavor he undertakes.”



Dick Butler.

George Moffat on Tom Beltz:

George Moffat opened this mini-biography of Tom Beltz by saying that Tom was born into a flying family. “He got to ‘steer’ the airplane by three, got enough cushions under him to be able to see out the windshield at six, and was big enough to fly at nine.” Beltz thinks that he had about 100 hours of flight time when he turned 14, and was able to solo the family 1-26.

The silver badge came next, and at 17 the gold badge in 1968. That same year he entered his first Nationals in a borrowed 1-23 and did well enough to go to Marfa, TX, the following year for the 82-ship Open Class Nationals. “This was the largest contest ever held in the US, and was serving for what we now call a Pre-Worlds; the first American Worlds was the following year,” Moffat said. There, the 18-year-old, flying a Standard Class SH-1 jousted with the best of the best. He finished “a very creditable 20th, well ahead of the 12 foreign pilot hot shots who were there to sample the conditions,” Moffat added.

At 21 Beltz won the 1972 Standard Nationals in Marfa. He finished third the next year and second the year after that following a hard-fought battle with Dick Johnson.

Beltz made the US Team for the Australian highly respectable fifth in the 1976 Worlds in Finland.

“Summarizing his early years,” Moffat said, “I, and many others, thought that Beltz had perhaps the greatest natural talent of any of the young lions. If there was a weakness it was that he was a bit too casual as to ship preparation and the latest instrumentation compared to such perfectionists as Dick Johnson, AJ, and Dick Butler. One of the problems was that he was often fly-

ing borrowed ships, as was usually my own situation.”

The Worlds again in 1983, at Hobbs: everyone was talking about the superb job of team flying that Beltz and Eric Mozer were doing. Then, on the fifth contest day, lady luck dumped on Beltz. Not only was he at the end of the grid when starting altitudes were around 14,000 feet, but while there he attempted to open the canopy to rid the ship of an overzealous horsefly. The start lady wouldn’t allow it. Amid futile swats the exasperated Beltz flipped her the bird. She reported the avian gesture to the CD, and Beltz was fined 10 points. Beltz lost the World Championships by NINE points to Stig Oye of Denmark.

“I never heard Tom allude to it in any way. He is certainly a champion in my book,” Moffat said.

In 1978, Beltz went with an airline and this cut into his contest flying considerably. “Nowadays,” Moffat said, “he is the captain of a large Airbus. He did manage to make the US Team one more time, flying in Poland at the 1993 Worlds.”

Karl Striedieck on George Moffat:

“George came to soaring competition at the ripe old age of 35 following winning experiences with sailboats between 1953 and 1961,” Striedieck said. From his first flight in a New Standard biplane in 1936, through model making and hanging around airports, he became hooked on flight. Reaching a tenuous balance between income and expenditure, in 1960 Moffat bought his first sailplane, a BG-12.

He entered the sailplane competition arena at the 1962 Nationals with the HP-8. “Later his friendship with Klaus Holighaus enabled George to find state-of-the-art gliders, and his first National win was in 1969 with an open Cirrus,” Striedieck said. From then on for



Tom Beltz.

the next 15 years, his many successes included: two World Championships, a European Championship, four more National titles, a Smirnoff Derby, and in 1976, the Lilienthal Medal. In 1963 George Moffat was inducted into the United States Soaring Hall of Fame.

The speaker said that during his prime competition years from 1968 to 1977, Moffat won seven world or national contests, won 30% of the days at the World Competitions, was the first pilot in the world to win the open class twice, and also the first pilot in the world to win all three FAI classes at the Nationals level.

"XX cast a big shadow on the racing scene for many years," Striedieck said, calling him "the Dean of Sailplane Competition."

A prolific writer, Moffat wrote *Winning on the Wind* in 1974, followed in 2005 by *Winning II*, bookshelf musts for competition wannabes and old hands alike. He also authored innumerable articles for *Soaring*. Nor did Moffat overlook the psychological aspects of competition. As Gren Seibels remarked in his "A Gaggles of One," "George Moffat is an unabashed psycher. Considering his overall track record and quality of his flying, his mere presence at a contest is sufficient to demoralize three-fourths of the contestants. The hard cases he attacks with a variety of weapons, not the least of them being verbal."

Moffat's competition successes can be ascribed to a combination of attention to detail, awareness of discipline and tactics, and foresight to exploit the changes in equipment and tasking that were so prevalent in the '70s. Striedieck said, "Today things have settled down, with opportunities for new tricks in tactics and equipment fewer and with competitors more evenly skilled."

"The impact of 45 years of continuous participation in competition with many victories at all levels,

contributions in his writings, lectures and services to and for the US Team, make XX a winner," he said.

George Moffat on Karl Striedieck:

When Moffat returned from the Poland World Gliding Contest in 1968, someone told him that some pilot down in Pennsylvania had made a 476-mile out-and-return in a Schleicher Ka-8. "A new world record in a Ka-8? Had to be a mistake," Moffat said. Moffat had made the first long distance contest flight along those ridges during the 1963 Elmira Nationals, some 370 miles into Virginia, "And I thought that I knew a thing or two. Turned out that Karl Striedieck knew a thing or three, or maybe three dozen as he continued to do the impossible in this old, low wing loading, low red line Ka-8." He first met Striedieck at the 1970 Standard Class Nationals, first ever in the US. "Everyone was waiting to see if Striedieck would soar off to a commanding lead in his ancient relic as the rest of us stood—or flew—open-mouthed, saying, 'Who was that masked man?'" Moffat quipped.

Not yet, but very soon thereafter, Striedieck started his collection of:

Six National Standard Class Championships
Eight National 15-Meter Championships
One Open Class National Championship
Two Sports Class National Championships

and

Nine World Records in O&R triangle
and goal flights
Two silver medals in the 1978 and 1983
World Gliding Championships
US Team member 12 times
Lilienthal Medal in 1971 for his
Appalachian flights
Winner, 1978 Transcontinental Smirnoff Derby

Striedieck (born in 1937) attended Penn State University for a couple of semesters, tried the working world in Philadelphia and became convinced that there must be something better to do. "So I visited the USAF recruiter." Fifteen months later, Striedieck had pilot's wings, and an F-104 to torch around in with the Pennsylvania Air National Guard. After finishing college at PSU, and while flying for a while with Pan Am ("mindlessly boring"), he discovered soaring in 1964.

Gliding proved anything but boring, and he now has 7,280 hours in gliders out of a total flight time of 16,053 hours.

"What makes Striedieck such a remarkable pi



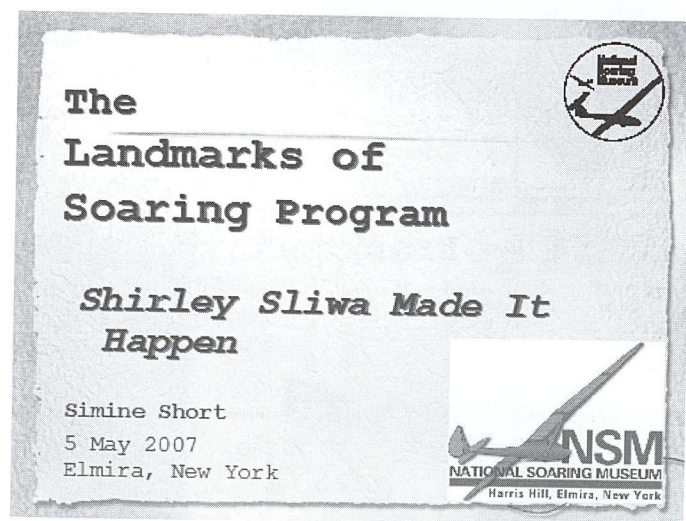
George Moffat.



Karl Striedieck.

lot,” Moffat asked? “He has insatiable energy, combined with laser-like focus and a lifetime love of pure ‘look-out-the-window-and-watch-the-ridges-whiz-by.’ He’s a throwback to the early pioneers of aviation, the Lindberghs, Doolittles, and Yeagers. They not only wanted to stretch the envelope, they wanted to blow the damn thing out of the sky.”

Moffat said that Striedieck is a champion who gives back. He was chair of the SSA Competition Rules Committee (1992-2004). With a lot of help from his wife Iris, he has organized no less than 18 National Soaring Championships. “And, to me the most estimable of all: in recent years he has flown many competitions in his Duo Discus, taking along pilots who learn from his techniques and whose fees go to the US Team Fund. Doug Jacobs does the same,” Moffat said. He added, “See *A Fine Week of Soaring* for what it’s like to ride with Karl.”



“The National Landmark of Soaring Program: Shirley Sliwa Made It Happen”

Simine Short

The next presenter during the Fourth Annual Soaring History Symposium was Simine Short, of

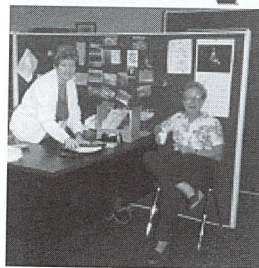
Downer’s Grove, IL. Ms. Short is Chair of the NSM’s Landmarks of Soaring Committee, the NSM’s philatelic advisor, and author of “Glider Mail,” a volume on international glider-borne postal mail. She has written extensively on Octave Chanute and the early motorless flight pioneers.

One of the early projects undertaken by the National Soaring Museum was the National Landmarks of Soaring Program. Established in 1980 at the annual Trustee meeting, it was an effort to broaden America’s gliding and soaring heritage. Appropriate plaques, markers and exhibits were to identify the sites and honor the men and women that were important to the history and growth of the sport of soaring.

The National Landmark of Soaring Program was one of Executive Director Shirley Sliwa’s priority efforts at that time. It was broadly modeled on the National Air and Space Museum’s “Milestones of Flight” program that included souvenirs and first day memorial postal cachets.

Shirley Sliwa

1980: From
“Scout
Leader”
to
Executive
Director.



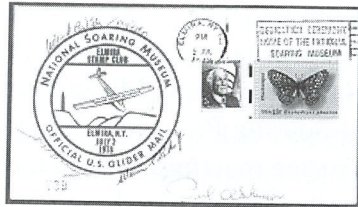
Shirley Sliwa started work as a volunteer in 1972 at the old NSM and became Executive Director in 1980. With the Sliwas, soaring was a family affair. Her late husband Ken was a former Navy pilot who loved flying. Besides his regular job as a Corning Inc. international sales representative, Ken was a Harris Hill Soaring Corporation commercial and tow pilot. The four Sliwa children shared the attraction of soaring and joined the HHSC Junior organization as soon as they were old enough. Shirley Sliwa was a scout leader, community activist, and played a major role in the funding, supervision and construction of the first NSM expansion, dedicated in September 1989. After 10 years as Director she retired in 1990. Shirley died in 2006.

Ms. Short recalled the formative days of the soaring movement in the United States, where three major centers of early gliding activity developed. They were: Detroit, where Col. Edward S. Evans formed the Evans Glider Club of America (later renamed The National

Glider Association, predecessor of the present Soaring Society of America); Truro, Cape Cod, MA, where J.C. Penney, Jr., set up the Motorless Aviation Association; and San Diego, CA.

The Beginning . . .

The Elmira Stamp Club and the opening of the new NSM in 1978.

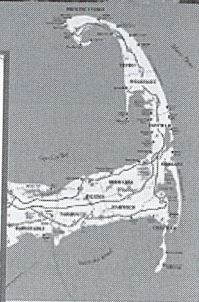
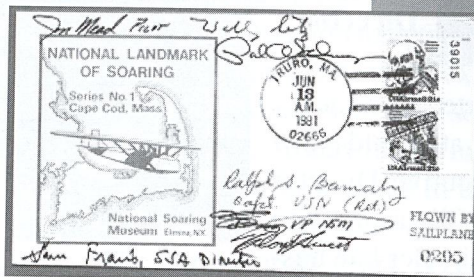
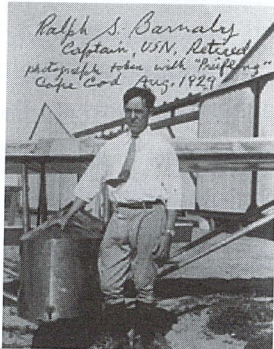


National Landmarks of Soaring

NLS #1 — Cape Cod, Massachusetts

The American Motorless Aviation Corporation (AMAC) opened the Cape Cod Glider School in March 1929 with equipment from Germany.

Barnaby requested information and attended the school in August. The 5 minutes duration flight for his C-badge was "easily done." Then he remembered Orville Wright's earlier soaring flight and decided to beat it. . . .



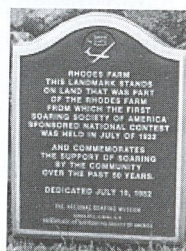
Jon Mead carried souvenir mail from Provincetown to the beach of Truro in his ASW-15.

NLS #2 — Elmira, New York



Pilots meeting at the Rhodes Farm, early 1930s

National Landmark of Soaring No.2
10 July 1982



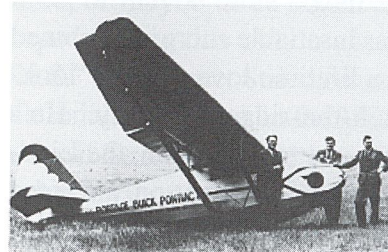
This landmark stands on land that was part of the Rhodes Farm from which the first Soaring Society of America sponsored National Contest was held in July of 1932, and commemorates the support of soaring by the community over the past 50 years.

Elmira became known as the "Gliding Capital."



Jack O'Meara and Warren Eaton, President SSA, at Caton Avenue Airport.

NLS #3 — Akron, Ohio



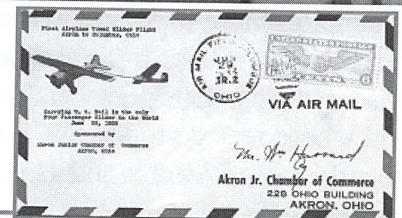
1935 flight

Bill Bodenlos, Willis Sperry and Frank Gross in front of the Gross F-5 sailplane, ready to go.

1985 flight
Jim Short and Akron Postmaster with mail bag



Bill Bodenlos and Willis Sperry carried 1,500 pieces of souvenir mail to Columbus.

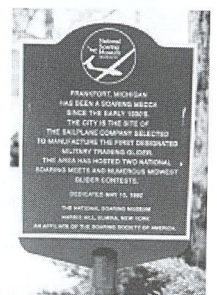


Bernie with father Frank Gross carried about 2,500 pieces over the same route.

NLS #4 — Frankfort, Michigan



National Landmark of Soaring No.4
10 May 1992

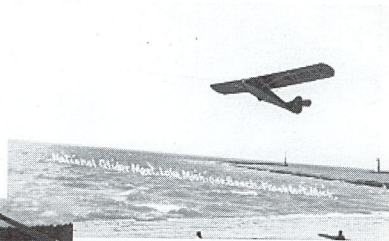


Frankfort, Michigan has been a soaring Mecca since the early 1930's. The city is the site of the Frankfort Sailplane Manufacturing Company which manufactured the first designated military training glider. The area has hosted two national soaring meets and numerous Midwest gliding contests.

The City of Utica, also called the "Golden Goose," was designed by Stanley W. Smith and built in 1938 as a school project.



Ted Bellak, Jan Scott and John House in front of the club's ASK-13, signing the glider flown mail.

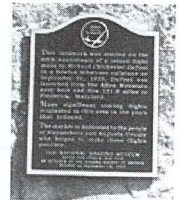


NLS #6 – Waynesboro, Virginia



*National
Landmark of
Soaring No.6*
17 September 1993

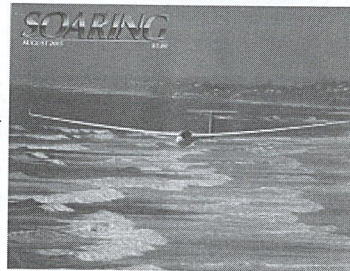
This landmark was erected on the 60th anniversary of a record flight made by Richard Chichester duPont in a Bowlius Albatross sailplane on September 21, 1933. DuPont was launched from the Afton Mountain near here and flew 121.6 miles to Frederick, Maryland. The marker is dedicated to the people of Waynesboro and Augusta County who helped to make these flights possible.



NLS #5 – Torrey Pines, California

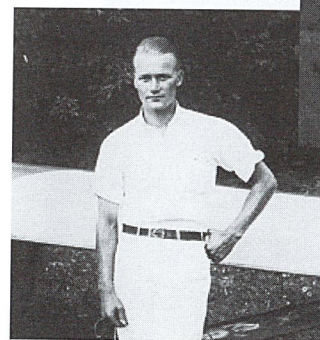


*National
Landmark of
Soaring
No.5*
6 June 1992



To honor the spirit, ingenuity and enthusiasm of the pioneers who flew gliders in the 1930s at Torrey Pines. And to the future pilots who will share this glider port and continue this tradition through all forms of motorless flight.

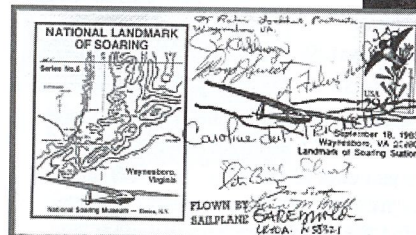
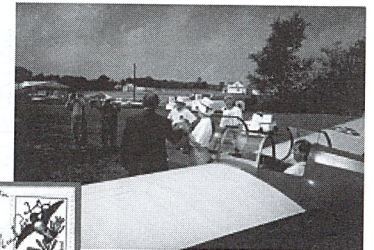
Schweizer 1-26 flying along the cliffs of Torrey Pines in the 1960's.



A view of the area over which DuPont flew in his Albatross.

Richard C. DuPont in 1933

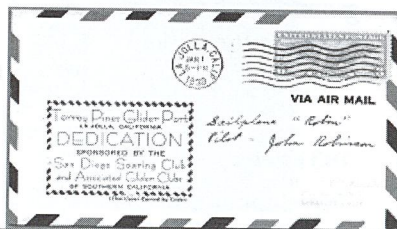
Linn Buell and Greg Reynolds carried the souvenir mail on a local flight in a restored TG-4 (LK-10).



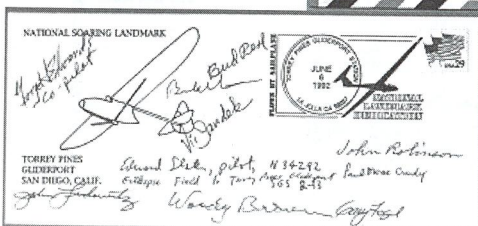
Postmark reproduces the barograph tracing of du Pont's flight.



John Robinson during the late 1930's



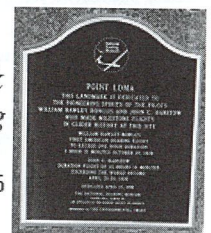
Ed Slater and George Edwards brought the souvenir mail from Gillespie Field to the Torrey Pines Gliderport in a Schweizer 2-33.



NLS #7 – San Diego, California



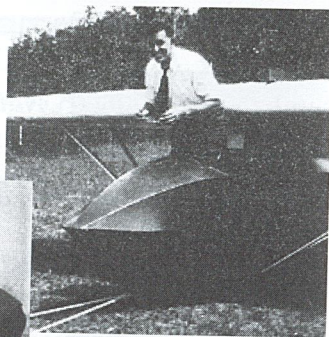
*National
Landmark of
Soaring
No.7*
27 April 1996



Don Hunsaker, Bob Fronius, Jeff Byard

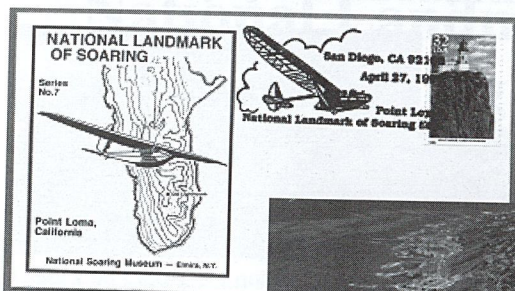
This landmark is dedicated to the pioneering spirits of the pilots William Hawley Bowlus and Jack C. Barstow who made milestone flights in glider history at this site. William Hawley Bowlus, first American soaring flight to exceed one hour duration, 1 hour 21 minutes, October 19, 1929. John C. Barstow, duration flight of 15 hours 13 minutes, exceeding the world record, April 29-30, 1930.

William Hawley Bowlus was instrumental in the development of the sport on the West Coast. He formed the Bowlus Sailplane Company with a school in 1928.



Hawley Bowlus in a "Paper Wing" sailplane, early 1930's.

L: Jack Barstow; R: Lindbergh and Bowlus.



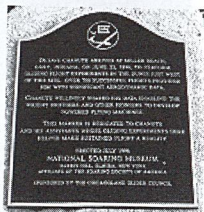
a Grob G-109 motor glider over the Point Loma peninsula.

Keith Boyer and Don Hunsaker carried mail in



NLS #8 - Gary, Indiana

National
Landmark
of Soaring
No. 8
27 July 1996

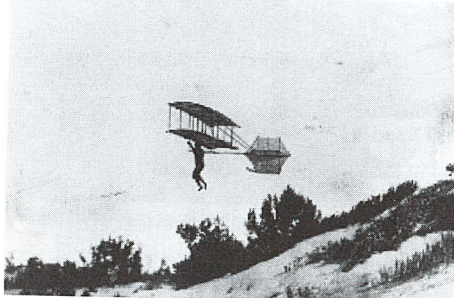


Octave Chanute arrived at Miller Beach, Gary, Indiana, on June 22, 1896, to perform gliding

flight experiments in the dunes just west of this site. Over 700 successful flights provided him with significant aerodynamic data. Chanute willingly shared his data enabling the Wright brothers and other pioneers to develop powered flying machines. This marker is dedicated to Chanute and his assistants whose gliding experiments here helped make sustained flight a reality.

"...With the high wind the practice was full of excitement for beholders.... One wholly new freak of the air was experienced by Mr. Herring when his machine rose with a sudden gust forty feet

higher than his starting point, then coming to a sudden poise, balancing like a bird, swooping at a right angle, traveled a long journey, and alighted gracefully upon a hillside. . ."

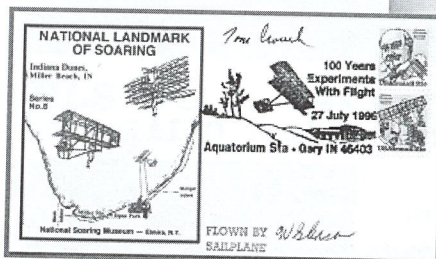


Chicago Tribune, "Air Ship Works Well," 12 September 1896



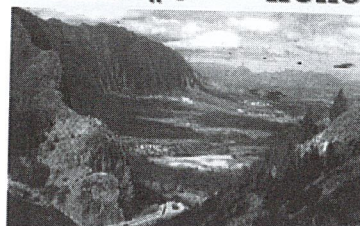
Chanute, Octave (1897). Recent experiments in gliding flight.

"... If we had a long, straight ridge, bare of trees at the summit, and a suitable wind blowing at right angles thereto, we would have attempted to have sailed horizontally along the top of the ridge, transversely to the resulting ascending current."

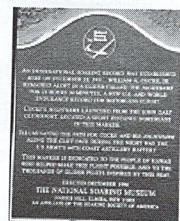


Wally Gleason and Kenny Ruffin carried souvenir mail in a Schweizer 2-33 from Park Forest South to the beach of Marquette Park.

NLS #9 - Honolulu, Hawaii

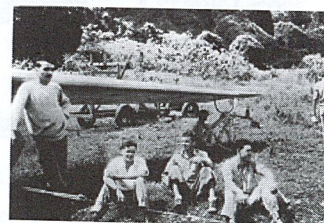


National
Landmark
of Soaring
No. 9
8 December
1996



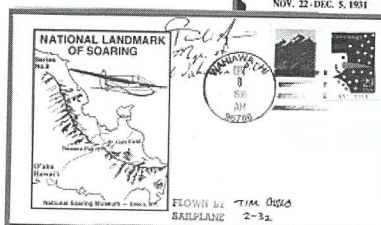
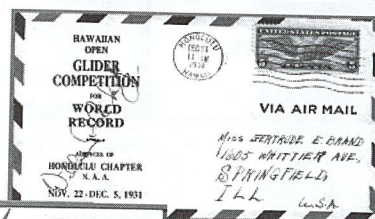
An international soaring record was established here on December 18, 1931. William A. Cocke, Jr. remained aloft in a glider called *Nighthawk* for 21 hours 34 minutes, a new U.S. and world endurance record for motorless flight. Cocke's *Nighthawk*, launched from Galt Gliderport, located a short distance northeast of this marker. Illuminating the path for Cocke and his *Nighthawk* along the cliff face during the night was the U.S. Army's 64th Coast Artillery Battery. This marker is dedicated to the people of Hawaii who helped make this flight possible and to the thousands of glider pilots inspired by the feat.

Camp-out in 1931, *Nighthawk* in background, with Cocke sitting in the middle



1931 event

Envelope signed and possibly flown.



1996 event, mail flown by Tim Cisko and Wahiawa USPS representative in the Schweizer 2-32 of the Honolulu Soaring Club.

NLS #10 - Arvin, California

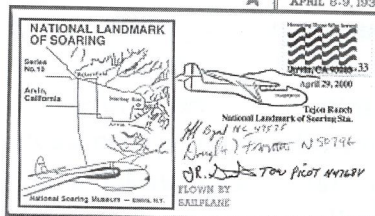
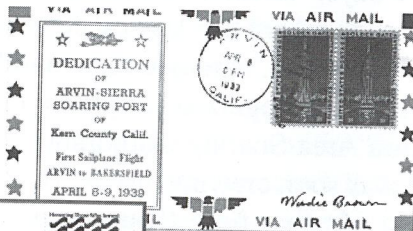


*National
Landmark
of Soaring
No.10*
29 April 2000



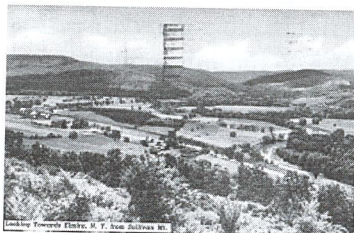
Located on the hills in front of you, on the historic Tejon Ranch, the Arvin-Sierra Gliderport was the site for the West Coast Soaring Championships. Many of America's famous glider pilots made record flights from here, soaring over the mountains and into the desert. The contests were popular events to pilots and public alike and the site became the most important gliderport in California. When World War II shut down activity here, those star pilots became key to the war effort — as pilots, scientists, engineers and builders of advanced aircraft, leaving an aerospace legacy that exists today.

In 1939, Woody Brown carried souvenir mail from Arvin to Bakersfield.

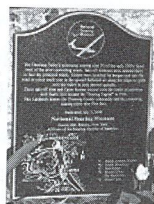


In 2000, Jeff Byard with Jim Short, and Doug with Bob Fronius carried souvenir mail in their TG-2s.

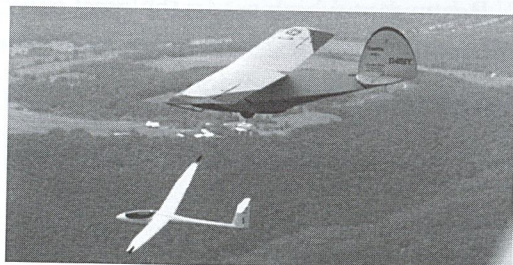
NLS #11 - Elmira, New York



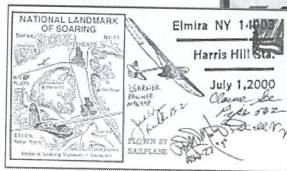
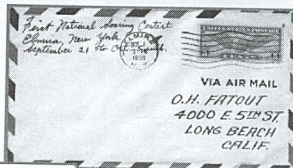
*National
Landmark
of Soaring
No.11*
1 July 2000



The Chemung Valley's pioneering soaring sites of the early 1930's faced many points of the compass. Take-off locations were selected daily to face the predicted winds. Gliders were launched by bungee cord into the wind so pilots could soar in the upward deflected air along the ridges or glide over the valley to seek thermal updrafts. These take-off sites and Caton Avenue Airport were the center of activity until Harris Hill became the *Soaring Capital* in 1934. This Landmark honors the Chemung County community and the pioneering soaring pilots who flew here.



1930 event:
Jack O'Meara at
Caton Avenue
Airport.
Souvenir mail.



2000 event: Souvenir mail was carried by Jack Wyman in a PS-2 and Roy McMaster in an ASW-27.

NLS #12 - Bishop, California



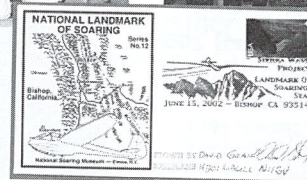
*National
Landmark
of Soaring
No.12*
15 June 2002



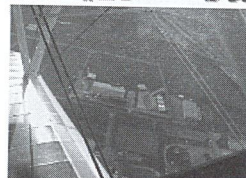
Fifty years ago the eastern edge of the Sierra Nevada was the site of intense atmospheric research to explore the cause and dynamics of the newly appreciated and powerful mountain wave phenomenon known locally as the Sierra Wave. This Landmark honors the pioneering spirit of the members of the two-year Sierra Wave Project: civilian glider pilots, volunteers, Army, Air Force, Navy Personnel and UCLA Staff. Their stratospheric flights were conducted under the inspiration and guidance of the Southern California Soaring Association.



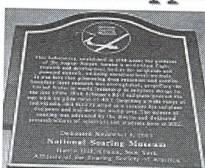
15 June 2002



NLS #13 - Starkville, Mississippi

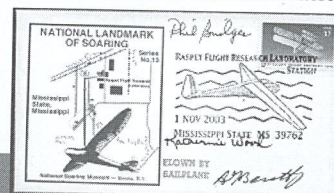


*National
Landmark
of Soaring
No.13*
1 November 2003



This Laboratory, established in 1948 under the guidance of Dr. August Raspert, became a world-class flight research and development facility for sailplanes and powered aircraft, utilizing unconventional methods. It was here that pioneering drag reduction and suction boundary layer research was accomplished, propelling the United States to the world leadership in sailplane design in the late 1950s. Dick Johnson's RI-5 sailplane pointed the way with its glide ratio of 40:1. Inspiring a wide range of individuals, this facility acted as a catalyst for sailplane designers and builders the world over. The science of soaring was advanced by the diverse and dedicated research efforts of scientists and students here at MSU.

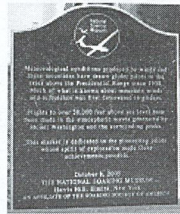
Events of
the day.



NLS #14 — Mt. Washington, New Hampshire



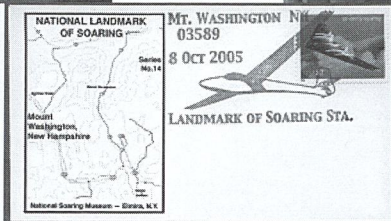
*National
Landmark
of Soaring*
No.14
9 October
2005



Meteorological conditions produced by winds and these mountains have drawn glider pilots to the skies above the Presidential Range since 1938. Much of what is known about mountain winds and turbulence was first discovered in gliders. Flights to over 30,000 ft above sea level have been made in the atmospheric waves generated by Mt Washington and the surrounding peaks. This marker is dedicated to the pioneering pilots whose spirit of exploration made these achievements possible.



Meteorological
conditions . . .



NLS #15 — Marfa, Texas

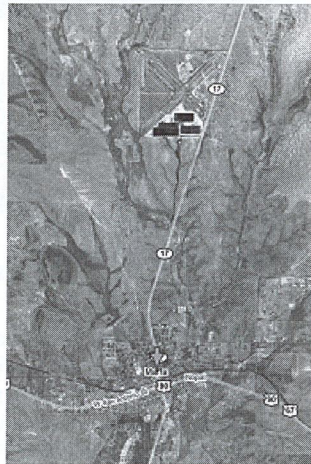
scheduled for 12 April 2008

Above the scenic mountains surrounding the Marfa Plateau, an abundance of atmospheric energy attracts gliding enthusiasts from around the world.

Since 1960, sailplane pilots have utilized convective thermal updrafts, the "Marfa Dry Line" and wave lift for record setting soaring flights, for US National Soaring Contests (1967, 1969, 1991, 2006) and the first World Soaring Competition (1970) flown in the United States.

In addition to formal competitions, pilots continue to gather at annual soaring camps to explore the superb weather conditions in this area.

This marker is dedicated to the men and women who developed Marfa as a historic soaring site.



National Landmark of Soaring

NLS Program Committee Members:

Janice Armstrong, Tehachapi, CA

Bob Ball, Vienna, VA

Burt Compton, Marfa, TX

Simine Short, Chicago, IL (Chair)

Peter Smith, Director, NSM

Bob Gaines, former President, NSM

Moses Acee, new President, NSM

"Trailer Tales"

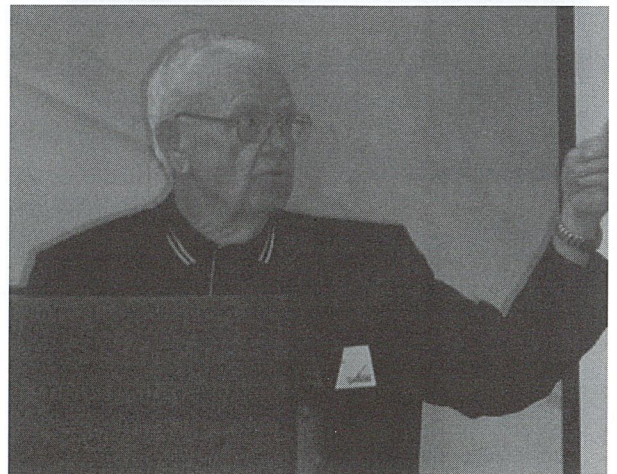
John "Corky" Gill and Peter Smith

The flying bug infected Corky Gill early. He recalled 1946, when he was 13 years old hiking from his home three miles up to the Harris Hill glider field. One small obstacle to be overcome was the two-bits admission fee to the fenced-off glider facility. Corky figured he had other options, like cutting through the woods or hitching a ride with a contest car. He was soon on the flight line, making himself useful arranging tow ropes in parallel, or hunting for dropped tow ropes. "In those days," he said, "We had a tow rope for every ship, and at the end of the day someone had to go over to the rope drop area, untangle them and bring them back to the Hill." Recognized early on by members of the old Elmira Area Soaring Corporation as an eager learner, Gill was soon crewing.

At that time there were straight-out contest flights "and the roads weren't like today," Gill said. When a downed glider was located, retrieval might take three or four hours with the pilot sleeping on his chute in the back seat of the car trailering the glider. He had to be ready to fly the next day.

He laughed when talking about radio communication: The retrieval crew set out in the general direction of the planned glider flight. While the retrievalists tried to maintain visual and radio contact, sometimes the glider became lost in the sun or was over terrain inaccessible by car. The crew had to rely on Sky Crafter radios, the tubes of which had a tendency to overheat and fade out. "So there we were, hanging out the car window with the radio, trying to cool off the vacuum tubes, while getting directional instructions from our pilot," Gill said.

One of the favorite contest beacons was O'Brien's Restaurant which sat on the crest of Waverly (NY) Hill, approximately 20 air miles away. As a PR



Corky Gill.

booster, a pilot and his crew got a free meal if he buzzed the restaurant or landed in the valley below. Needless to say, on a marginal contest day the valley below looked like a glider port. Retrieval crews headed for O'Brien's parking lot where crews would scramble for the post-mounted binoculars. For a nickel, crewmen could view the countryside scanning for downed gliders to spot the ship they were crewing for. Gill said that he was crewing for a pilot flying an LK-10, and thought that by putting a piece of reflective tinfoil on the nose of the ship it would be easily identified in the valley below. "Didn't work though," he said.

Peter Smith said he was the tender age of 15 months at his first contest, and joked, "I don't remember much about it." One of his father, Stan Smith's first ships was the Lawrence sailplane known as the "Yellow Peril," a one-off design that had been wrecked. In the late 1940s he purchased and rebuilt it and painted it blue.

The younger Smith said that in those straight-out contest days the pilot would tell his crew the general direction he was headed. Simultaneously the retrievers would leave with the trailer, in that direction, attempting to maintain contact visually, or less reliably by radio. Roads in the '40s were not like today's high-speed concrete and asphalt carpets. They were bumpy, sometimes potholed, often poorly marked, two-laners that almost always were under construction at some point, and sometimes just came to an end. But Stan Smith had a 1940 Cadillac with a sunroof, then a Detroit rarity. While glider-tracking the Caddy became modified to a "son" roof. "I spent hours sitting on the back of the front seat with my head sticking through the roof, trying to keep my dad's ship in sight. I actually wore a groove in that seatback," Peter said. He added, "depending on the time of day, we would find a phone booth and call our pilot person-to-person at Harris Hill contest headquarters. If no one had heard from the pilot they would refuse the call. If they *had* heard from him they had a message from him giving the location of where he was down. Thus the crew only had to pay for one long distance call a day."

He recalled a memorable soaring day during the 1953 contest when his father flew all the way to New York's Idlewild airport (now JFK), one of the busiest in the east. With no radio contact, Peter's father was anxiously spiraling around awaiting a green light from the Idlewild tower. When none was forthcoming, and with options dwindling, Stan Smith landed. It wasn't long before he was confronted by a phalanx of castigating officialdom. While Smith was trying to sooth the complainers, Englishman Nick Goodhart wooshed by

and landed, closely followed by Steve Bennis zipping in.

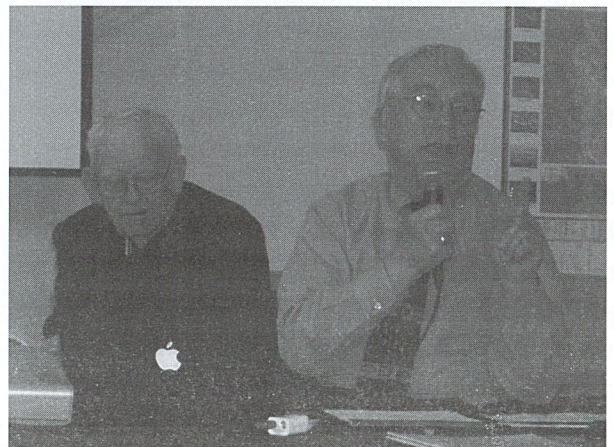
Those exciting and record soaring flights from the Elmira Nationals were nationally reported on the news wires. They also resulted in a strict off-limits rule for motorless aircraft at Idlewild.

Peter laughed as he remembered a trip to Harris Hill from his Orleans County (NY) home, with the glider mounted on an open trailer. "It was about eight o'clock p.m. and we had stopped for gas in Painted Post (NY). Always an attention getter, the glider's cockpit was filled with blankets, a chute and oxygen mask. A knot of old timers gathered around peering through the canopy and began questioning conversations regarding its purpose. Finally one spoke up, saying, 'Must be one of them iron lungs.'"

Probably one of the longest and most convoluted retrievals was from Smith's 1957 contest flight with the proposed goal of radio and TV personality Arthur Godfrey's field in Virginia. Off they went, with the crew headed for Virginia. Mid-flight weather conditions changed and Smith decided to alter course to Atlantic City, NJ, and was not able to raise his crew by radio. With Smith headed for Atlantic City and his crew for Virginia, they didn't get together until midnight.

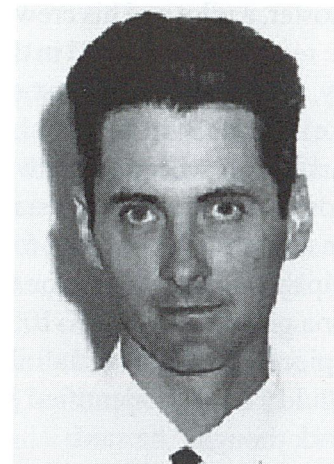
Then there's the story of the retrieval crew that on receiving word that their pilot was down, decided to unhitch the trailer and hide it from the downed sailplaner. When they rolled up, the pilot, looking aghast at seeing the car with no trailer behind, exploded: "Where's the @\$%#@# trailer?" Then one of the crewmen, looking shocked, turned to his partner and said, "Jeez! I thought you hooked it up!"

When the audience was asked for some of their stories there was an immediate raising of hands, with each trailer tale being funnier (or more embarrassing!) than the last. As Corky Gill put it, "If you have 30 sailplane stories, you probably have as many retrieval tales."



Peter Smith tells tales (R) as Corky Gill looks on (L).

United States Soaring Hall of Fame 2007 Induction *Wil Schuemann* *introduced by Karl Striedieck*



Wilfred Schuemann became the 120th member of the United States Soaring Hall of Fame as he accepted the Award during the recognition banquet held Saturday evening, May 5, 2007, at the National Soaring Museum.

William Hawley Bowlus became the first honoree in 1954. That year, the Helms Athletic Foundation of Los Angeles determined that soaring was a sport of such national and international stature that individuals that attained the highest achievement or contributions to the sport should be recognized in a Soaring Hall of Fame.

Originally Directors of the Soaring Society of America were asked to select and recommend to the Foundation candidates for recognition in the Helms Soaring Hall of Fame. Then in 1975 the SSA Board decided to transfer the Hall of Fame to the National Soaring Museum.

By way of introduction, Karl Striedieck related to banquet attendees some of Schuemann's expansive background and reasons for Schumann's selection to the United States Soaring Hall of Fame.

Striedieck opened by saying that Wil Schuemann, through his talents as a brilliant engineer and skilled craftsman has been on an irrepressible search for perfection. He made a number of breakthrough discoveries and developments that were remarkable for their time and remain with us today.

In the early 1970s, Wil, who currently lives on a bluff overlooking the Columbia River Gorge, launched a performance improvement program for the 301 Libelle which included an improved wing profile, modified nose design, and more efficient ventilation system. He also increased the wing loading range through water ballast system changes. This project was the subject of a lecture at the 1972

Holbrook and Byars Soaring Symposium, and was published by that organization.

In 1973, with an eye toward improving soaring instrumentation, Schuemann formed Sage Instruments, a cottage industry for the production of total energy compensators. Striedieck said that in 2007 these devices are still unexcelled in providing fast, total energy compensation signals for variometers.

He mentioned that Schuemann was the first to show that the classic MacCready theory of cross country flight was, in reality, impossible to achieve. He proposed an alternative to the universally held concept, and wrote about it in a 1976 *Soaring* article.

"In 1977 Wil added variometers to the product line. These instruments featured a 'taut-wire' design that made them superior to anything produced then or since," Striedieck said. "These instruments are still available today from a company that continued production when Schuemann moved on."



Karl Striedieck introduces Wil Schuemann.

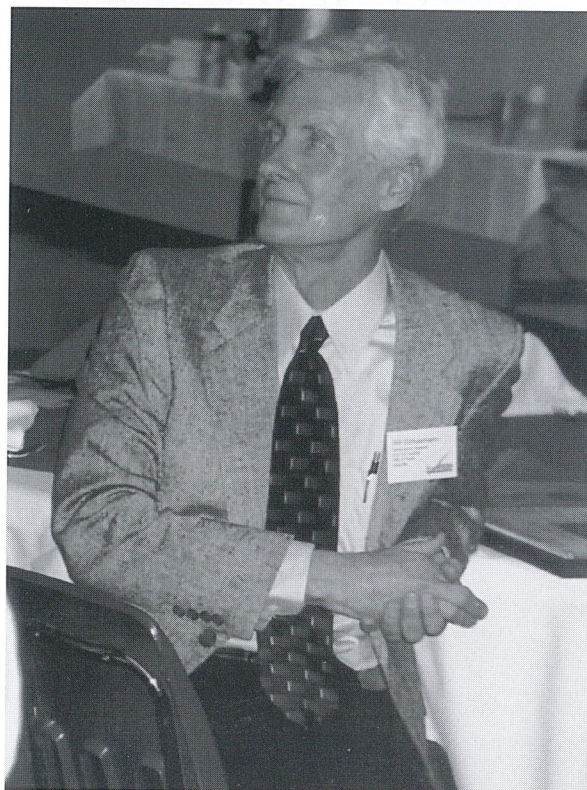
That was the same year that Schuemann's ASW-12 became the focus of some major research and development. He shortened the span to 15 meters, experimented with winglets, and improved the ventilation. Earlier additions included water ballast and a second landing chute.

He continued his insatiable quest for increased performance through reduced drag by studying bird flight. This led to his 1980 theory that inward lateral airflow at the trailing edge was the source of drag that could be reduced by sweeping back the wingtips. In 1981 he again put the venerable ASW-12 under the knife, this time cutting off the outer six feet of the wings and installing swept back replacements. The ship flew in the 1982 15 meter Nationals at Elmira. The February 1983 issue of *Soaring* carried an in-depth article about his work and featured the ship on the cover.

The first production sailplane to use this idea was the Schempp-Hirth Discus in 1984, and now wing sweep is the accepted standard of high-performance sailplane design.

The final concept Wil articulated appeared in a June 1984 *Soaring* article. Valid then as now, this idea hasn't been embraced by all the soaring community. Schuemann's iconoclastic view is that water ballasting achieves nothing, but costs plenty. In time, perhaps this idea will become as accepted as Wil's other breakthrough concepts.

Striedieck closed by saying, "The soaring community is a better place for Wil's time with us. He brought a very rare combination of manual dexterity, high I.Q., probing intellect, and a commitment to exploring the unknown that has produced some amazing accomplishments."



Wil Schuemann listens to audience comments.



Schuemann joins the Hall of Famers present at the banquet, L-R: Virginia Schweizer (1971), Bertha Ryan (1972), Wil Schuemann (2006), Bernald Smith (1984), George Moffat (1963) and Karl Striedieck (1980).

From the Archives...



SG 38, the German pre-war gliding veteran after landing away from base. NSM Archive photo, taken by Wolfgang Marquardt.

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E-mail: nsm@soaringmuseum.org / Website: www.soaringmuseum.org

Anyone is invited to contribute material and pictures with identification about historical soaring activities, renovation of old sailplanes, soaring pioneers, unusual uses of sailplanes, etc. Manuscripts are subject to whatever revisions, additions, or deletions are necessary to make the material conform to the space limitations and standards of the NSM.

Material that is to be returned must be accompanied by a self-addressed stamped envelope.

No compensation other than credit will be given.

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