

# NSM



A Quarterly Journal  
of the National Soaring Museum  
Spring, 1988 Vol. 10, Number 4





## FROM THE EDITOR:

Spring always brings with it a rush of things to do and attempts to complete projects that weren't done last winter.

We were pleased by the hundreds of NSM/SSA members and visitors who stopped by the Museum booth at The Soaring Society of America Atlanta Convention last March.

What was particularly impressive was the number of people who watched the NSM's video presentations of '42-'43, 29 Palms Glider Training; Peter Riedel's comments on the early days of soaring on the German Wasserkuppe and on the renowned German soaring pioneer, Wolf Hirth. Two other popular videos were John K. Northrup's discussion of his flying wing concept and subsequent disagreements with the Air Force over the XB-49 and the YB-49, and glider operations in the Normandy Invasion. The Museum is investigating the most efficient method of making these and other important archive tapes available for sale to Museum members.

We were surprised and encouraged at how popular the NSM T-shirts and NSM balsa gliders were at the Atlanta Convention. Parents and grandparents were purchasing these eight-inch-wingspread balsa gliders for their kids, or so they said. Wouldn't you like to know how many of these neat little zoomers wound up in offices and board rooms? . . . The temptation to go for a "balsa cross-country" out a 15-story office window must be overwhelming. We wanted to try one from the top floor inside Atlanta's Hyatt Regency but decided that we weren't ready for the off-field landing consequences with the Hyatt management.

Later in March, the National Soaring Museum, along with other air museums, was invited to attend a two-day "Mutual Concerns of Air Museums" workshop at the Smithsonian Institution's National Air and Space Museum. There were slide/lectures on Opening a New Museum; Exhibit Design and Planning; Resources of the NASM Library-Videodiscs, Archives and Film Collection; and Artifact Storage, Movement & Maintenance. High point of the visit was a conducted tour of the NASM's Paul E. Garber Preservation, Restoration and Storage Facility at Silver Hill, MD. There, hundreds of historically significant aircraft are parked on ghostly flight lines in vast warehouses, protected from the ravages of time.

The depth of the NASM's collections is phenomenal. For example, they not only have speed-ace Roscoe Turner's ship, the RT-14 "Meteor" but they also have his pet lion, "Gilmore." The animal is stuffed and preserved in a climate-controlled case. There were many valuable ideas and concepts expressed at this gathering that will be useful in our work here at the NSM.

On the lighter side, during one of the sessions on outdoor exhibit security, Randall Acord of the Alaskaland Pioneer Air Museum, Fairbanks, Alaska, remarked, "But what if the bears get into your aircraft?" Amid ripples of laughter he continued, "Well, we have them up there, and if they get into a ship, they'll tear it to shreds . . . You can't shoot 'em, you can't trap 'em, you surely can't feed 'em, and they're a heck of a lot bigger than you." . . . That's one problem that the NSM hasn't experienced . . . yet.

For most of April and May the Museum's Exhibit Committee was busy blocking out and positioning the 1988 exhibit. Sailplane builder John Mahony, Clifton Park, NY, who donated his HP-18 to the Museum, stopped by and assisted in assembling it for the exhibit. One of the Museum's newest acquisitions is the Mitchell U-2 Super Wing Motorglider donated by Will Tatham, Findlay, OH. It drew visitor interest even while shunted to a corner with its wings folded, flattop style, awaiting engine mounting and polishing.

The Museum is preparing for very busy Spring and Summer sessions, with increased school bookings, tour reservations and an upgraded Dynamics and Aerodynamics of Paper Gliders Program.

Kite flyers and closet kite flyers! . . . Don't forget the National Soaring Museum's Third Annual "Kiteciment" kite fly, Saturday, October 8th, here on Harris Hill. Start your designs, stress tests and doodles now. We've been talking this contest up with visiting school groups (including one university design class) and many are quite enthused about making "Kiteciment" a group project. (No entrants before September, please — storage limitations.) Specifics in the Summer NSM.

Are you planning a trip through the New York State Finger Lakes Region this season? Visit the National Soaring Museum. No admission charge for members and you will see the largest exhibit of classic and contemporary sailplanes in the world. We're open 10 to 5, seven days a week. Take Exit 51 from NY I-Route 17 and follow the signs to the NSM or Harris Hill Park.

### You can help in preserving our soaring heritage.

If you have historic memorabilia and excess or duplicate publications, send them to the National Soaring Museum for cataloging and archiving.

Share your collection of soaring artifacts and reminiscences with people who would not otherwise have an opportunity to appreciate them.

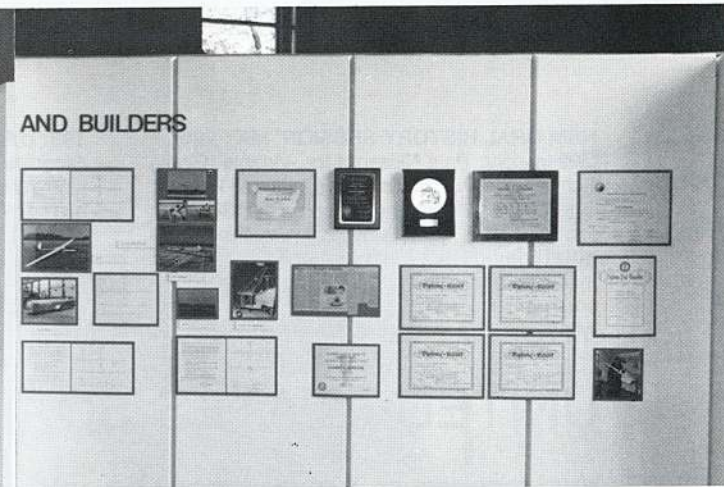
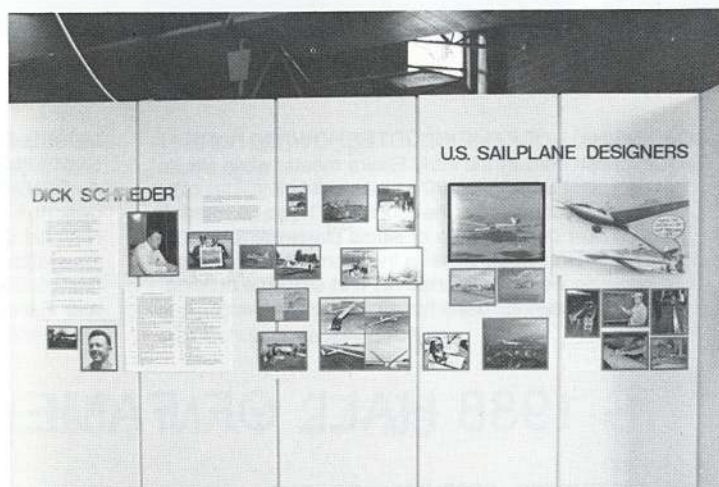
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# THE NATIONAL SOARING MUSEUM

## 1988 EXHIBIT FOCUS

- YOUTH IN SOARING
- U.S. SAILPLANE DESIGNERS AND BUILDERS
- MOTORGLIDERS



*Looking for a unique soaring present?*

### CHECK THE NSM GIFT LOFT

- "WINGS Like Eagles — The story of soaring in the United States," autographed by Paul Schweizer, \$39.95, plus \$5.50 shipping and handling
  - National Soaring Museum T-shirts — (S-M-L-XL) — \$10, including s/h
  - Schweizer 1-26 or Grob Astir 103 Tie Tacks — \$8, including s/h
- U.S. Money Order — Master Card — Visa





NSM ORAL HISTORY SESSION, MAY 28th. Left to right: Paul Nissen, Mrs. Virginia (Ginny) Schweizer, 1987 Hall of Fame inductee Howard Burr, Dale Busque, Peter Mann, Felix Chardon, Prof. Thomas Page, and Mrs. Shirley Burr, recall outstanding moments in soaring. These meetings are video taped for the NSM archives so that succeeding generations may refer to witnesses' experiences of historic events.



1987 U.S. SOARING HALL OF FAME INDUCTEE HOWARD BURR. Glendale, CA, ran shock cord at the early Elmira meets, while still in high school. "At one point back in the 30's I was chief instructor of a gliding club, even though I couldn't fly," he chuckles. The co-founder of the club would brief Burr on each step of single place training on a Saturday morning, then Burr would pass on the information to classes held during the following week. He started his first sailplane building project in 1949 and has been sailplane homebuilding ever since.



MUSEUM TRUSTEES BERNALD S. SMITH (hand raised, left) AND PAUL A. SCHWEIZER (hand raised, right) describe location details of the National Soaring Museum's 12,000 square foot expansion to attendees of the U.S. Soaring Hall of Fame Banquet and Reception. Groundbreaking will take place on July 28th, 1988.



1988 EXHIBIT FOCUS above right, Mitchell U-2 SUPERWING MOTORGLIDER

at right, Dick Schreder-designed HP-18

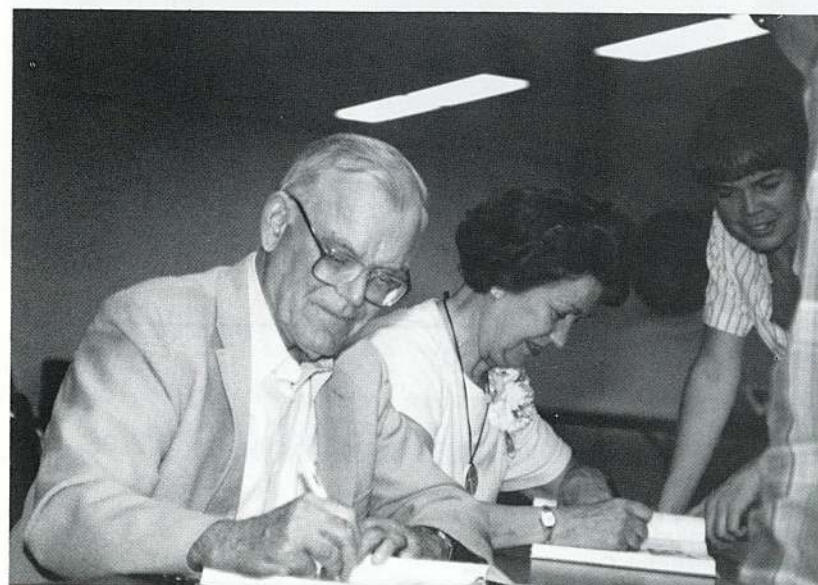
## UNITED STATES SOARING 1988 HALL OF FAME WEEKEND, MAY 27-29

PAUL A. SCHWEIZER AND MRS. VIRGINIA (GINNY) SCHWEIZER autograph his new book, "WINGS Like Eagles, The story of soaring in the United States." The occasion was a special autograph signing session held at the National Soaring Museum, during Hall of Fame weekend. The 388 page book, with over 200 photographs, follows the development of gliders and sailplanes from the 19th century to the state-of-the-art ships of today.

HALL OF FAME INDUCTEE, STEPHEN duPONT, Osprey, FL, recalled in 1920, an aunt who had visited France brought home paper airplane cutouts of WWI fighter planes for the boys in the family to construct. "That started my love affair with the airplane," he wrote. duPont was unable to attend the induction ceremonies due to illness. In 1935 he and fellow M.I.T. students flew in the Elmira Nationals. A long-time competition pilot with over 1,000 cross-country hours, duPont was past chairman of the S.S.A. Safety Committee and has written extensively in SOARING. He authored three books on sailplane safety.

THE NATIONAL SOARING MUSEUM BOARD OF TRUSTEES annual meeting Saturday, May 28th. Trustees received reports on the progress of the Museum expansion, future exhibits, operations, attendance and discussed goals.

UNITED STATES SOARING HALL OF FAME RECEPTION AND BANQUET, where the over 50 attendees reminisced with old soaring friends and honored the 1987 inductees Howard Burr and Stephen duPont.





## JOHN MAHONY'S RECOLLECTIONS OF BUILDING THE NSM'S HP-18



**First launch of John Mahony's HP-18 at Saratoga Airport. Photo by Angelo DeNoucous.**

With absolutely no knowledge of sheet metal working, after 10,000 rivets and 7 years and 9 months of intermittent labor, John Mahony of Clifton Park, NY was soaring in a sleek Schreder-designed HP-18 homebuilt sailplane.

Of course, he had help from his wife, brother, father, and a couple of good friends, including Ray Wielt, who happened to be an FAA designated examiner.

This ship is now on display in the NSM's main hall as part of the 1988 exhibit focus.

It started in 1976, when Mahony was on his way back from the annual Experimental Aircraft Association Air Show in Oshkosh, WI. He stopped off at Richard E. Schreder's Airmate Company in Bryan, OH, to pick up the HP-18's distinctive "V" tail kit.

He took it back to his North Wales, PA, apartment and in a space that would make a jeweler's stall look like a warehouse, he started to cut, file, and fit the tail components.

A change of jobs brought him to northern New York State, another apartment and enough confidence to go ahead with the project and purchase the HP wing kit.

Even the most gifted grocery packer couldn't come up with a space concept that Mahony would need to build a 15-meter sailplane wing section in that apartment.

Next, he bought a trailer kit and shifted that assembly project to a hangar at the Saratoga County Airport.

Along the way he also bought a house . . . But, one of the conditions of sale was that the diagonal dimensions of the garage had to be at least twenty-eight feet to accommodate the HP's wing panel.

Work began with new determination and zeal in the garage workshop. By this time the trailer had been completed and had been moved from the airport hangar to alongside the garage. As the various sections of the 15 meter HP-18 were completed, they were shifted to the trailer.

The sailplane's electronic work was done by the builder's father, John Sr., a radio engineer, assisted by Mahony's brother, Michael, then a college student.

Though they have since separated, Mahony said that his wife, Lisa, also a sailplane pilot, was tremendously supportive of the activity.

Mahony said that the most difficult part of the undertaking was to keep the project moving. "You want to see it fly. Constructing the aircraft is not an end in itself, but a means to an end," he said, adding, "After five years on the project with still no sailplane to fly . . . that was the toughest part."

Early in the building, Mahony flew out to designer Schreder's headquarters where Deloss Dangler showed the fledgling builder how to rivet. "Then I knew that I could put a ship together that was airworthy, without previous experience." He further commented, "Actually a sailplane is quite straightforward to build; there are no engine assemblies, oil pressure systems or other complications to worry about."

Mahony said he thought that the HP-18 was Schreder's most successful design, but before he test flew it, he had a long talk with

the designer. Schreder advised him on how to expect the ship to handle and what to look for.

How did he test the finished ship?

Mahony said that he just got in and flew it. "I had a great deal of faith in Dick's design," he said, "I took a tow to 3 or 4,000 feet behind a Citabria, which I now own, and stayed on top of it, trying to determine its handling characteristics. At that time I flew in a two-place Grob and had need for single-seat high-performance time. With 90 degree flaps, it landed differently than anything that I had ever flown, but by the time I had 20 landings, I really felt comfortable in it."

Mahony said that his HP-18 had neutral stability; that is, if you were banking in a thermal, the aircraft would tend to stay in a turning configuration. It had a glide ratio of about 36 to 1. (Glide ratio is the number of feet forward that an aircraft will glide for every foot that it descends.) "It would easily get you to the top of a thermal. It was a good floater and excellent in light conditions," the builder continued.

Mahony said that the ship was great for cross-country flying. "You could drop it in almost any field . . . It gave me a great deal of confidence because it was a very strong plane," he said.

He especially liked such design features as the adjustable rudder pedals, trim on the stick, the hydraulically dampened retractable landing gear and the interconnecting ailerons and flaps.

He said that although the ship was designed to carry water ballast, he didn't build for it.

He found the side-mounted control stick no problem.

Mahony earned several soaring proficiency badges in the HP-18, although he never flew it in competition.

Why did he donate it to the National Soaring Museum?

"I was ready for another challenge, and I had found a damaged Glasfugel Mosquito that needed rebuilding." "Besides," he smiled, "The HP-18 had become part of my life, and by the time I'm 65 I can look back to the National Soaring Museum and see what I did when I was 25."



**HP-18 Builder, John Mahony, oversees first wing alignment and assembly, 1982.**



# VSA'ers HOLD VINTAGE SAILPLANE REGATTA AT HARRIS HILL DURING HALL OF FAME WEEKEND

Vintage Sailplane Association members at Harris Hill, left to right: Jack Hilton, Greg Reynolds, Felix Chardon, Jan Scott, Lorraine Busque, Tim Sobol, Dale Busque, Linn Buell, Mai Scott, Lee Buell, Sally Nissen, Tony Beck, Paul Nissen, Bruce Weber, Albert David Uster Jr., and Albert Uster. (Moswey III in foreground)

Below: Pratt Read PR-G1, on the flight line at the Harris Hill VSA Regatta. Note the Navy designation, LNE-1, on the rudder.



## ON THE COVER:

Associated Glider Clubs of Southern California, San Diego, Schweizer 2-22C (#65,1959) getting a tow off the beach, Torrey Pines, CA, February, 1961. A Rex Morris, San Diego, CA, picture from the National Soaring Museum archives.

## 1988 CALENDAR OF EVENTS

| Date            | Event                                                          | Location                |
|-----------------|----------------------------------------------------------------|-------------------------|
| July 28         | NSM Expansion Ground Breaking                                  | South of NSM            |
| Aug. 11         | Twin Tier Hangarfest, Pilots Outing                            | Harris Hill Park        |
| Sept. 3, 4, 5   | Labor Day Weekend - Informal Sailplane Regatta.                | Harris Hill             |
| Oct. 1, 2, 8, 9 | Fall Foliage Weekends                                          | Harris Hill/NSM         |
| Oct. 8          | The National Soaring Museum's 3rd Annual "Kiteciment" Kite Fly | Harris Hill/NSM         |
| Oct. 29         | 15th Annual Ralph S. Barnaby Lecture (Speaker to be announced) | Tidewater Virginia Area |
| Nov. 25, 26     | 45th Annual Snowbird Regatta                                   | Harris Hill/NSM         |
| Dec. 9          | Community Soaring Committee Luncheon                           | NSM                     |



# AN UPDATE OF THE WINTER 1987-1988 NSM QUARTERLY, "FROM MYTH TO REALITY: THE DAEDALUS HUMAN-POWERED FLIGHT PROJECT," RALPH S. BARNABY LECTURE BY DR. STEPHEN BUSSOLARI.

The following was excerpted from "The Daedalus Project Newsletter"  
sent to the National Soaring Museum from Project headquarters in Greece.

## Kanellopoulos Flies to Santorini Daedalus 88 Crash-lands 7 meters from Beach

On Saturday, April 23, the Daedalus 88 aircraft took off from the Iraklion airbase at 7:03 AM with Kanellos Kanellopoulos as pilot. Aided by a tailwind, it arrived at Santorini 3 hrs 55 mins later having traveled 72.4 miles at an average speed of 18.5 mph. This flight broke Gossamer Albatross's records for straight-line distance and duration which were set when Bryan Allen flew 22.3 miles across the English Channel in 2 hours 49 minutes, as well as being farther than the 36.5 miles flown by Glenn Tremml in the Light Eagle on a closed-course at Edwards AFB.

Though the weather conditions were near-perfect for the entire flight, strong winds were encountered during Kanellos's approach to the beach at Santorini. At one point the aircraft experienced a 15 knot headwind that caused the aircraft to move backwards with respect to the ground. As he was maneuvering for landing, Kanellos was buffeted by turbulence, possibly caused by thermals rising off the black sand beach. The turbulence proved to be too strong for the fragile aircraft. When Kanellos was only about 25 feet from the beach the load on the rudder became excessive, causing the tail boom to snap and rendering the controls useless. The aircraft consequently entered an attitude which put an excessive load on the wing, which collapsed on the right side, and the aircraft fell into the sea. Kanellos, who was unhurt, swam the short distance to shore where he was embraced by team members and astonished spectators.

The schedule of events went like this:

### APRIL 22

7:00 PM Steve Bussolari informs the team and the media that the weather looks favorable for the following day. The team goes on full alert.

### APRIL 23

3:30 AM The wake-up call comes. Final preparations are made; the boats are readied, the pilot's drink is prepared, and the aircraft is assembled.

6:30 AM All preparations are complete. The escort flotilla is assembled offshore from the airbase. Kanellos completes his warm up and prepares to enter the aircraft. Before entering, he removes his warm-up pants, revealing his "high-performance" cycling shorts. To parody the engineers' compulsion to minimize weight, he has cut holes in his shorts to lighten them.

7:00 AM A final weather check is made by our crew at Santorini and they radio Iraklion that conditions are acceptable for flight.

7:03 AM Kanellos takes off. The escort flotilla forms up behind the aircraft.

8:16 AM Gossamer Albatross's straight-line distance record of 22.3 miles is reached.

9:03 AM Daedalus 88 betters the Light Eagle's absolute distance record of 36.5 miles.

9:40 AM A large container ship is spotted in the distance. On its current course, it will pass directly in front of the aircraft, leaving a turbulent wake. After a tense period of perhaps 15 minutes, the Navy patrol boat in the Daedalus flotilla is finally able to contact the cargo ship and requests it to immediately turn south to avoid our flotilla. The ship complies by making an astoundingly fast 180° turn.

9:53 AM Kanellos breaks Bryan Allen's endurance record of 2 hours 49 minutes.

11:30 AM The flotilla has Santorini in sight.

11:58 AM Kanellos reaches the shore of Santorini and the airplane collapses in front of perhaps 1000 spectators. During the flight, his heart rate remained in the mid 130s. At this power level, he could have probably continued for another 3 hours.

12:00 PM The press interviews Kanellos on the beach while team members collect the pieces of the aircraft and store them in the trailer. The spectators collect broken pieces and have Kanellos autograph them.

2:00 PM Kanellos leaves for Athens by helicopter for TV interviews. The team spends the remainder of the afternoon on the beach taking a well earned rest.

As of this writing, the Daedalus 88 is still in a state of heavy damage, some caused by the crash, and some that occurred while the plane was being dragged out of the water (the general consensus was that a salvage operation would have been pretty difficult if the plane had gone into the water far from the shore). Whether or not the plane will be rebuilt for display purposes is not yet clear. There are, however, possibilities being pursued for the Daedalus 87 to be displayed at various events, both in the United States and in Europe.

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ISSN #0892-0516

NSM is a publication of the National Soaring Museum, Harris Hill, RD3, Elmira, New York 14903. Phone (607) 734-3128. 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 NSM. Material that is to be returned must be accompanied by a stamped, self addressed envelope. No compensation other than credit will be made.

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Publisher — National Soaring Museum  
Director — Shirley Sliwa Editor — Bill Gallagher