



NSM

A Quarterly Journal
of the National Soaring Museum
Fall 1989
Volume 12 Number 2

WILLIAM S. IVANS DELIVERS 16TH ANNUAL RALPH S. BARNABY LECTURE AT THE NATIONAL SOARING MUSEUM, EXPANSION DEDICATION WEEKEND



SSA President-elect, Judy R. Lincoln, with husband and NSM President, John C. Lincoln II, listen to Barnaby lecturer, William S. Ivans on, "Soaring: A World Perspective."

The 16th Annual Ralph S. Barnaby Lecture, "Soaring: A World Perspective," was given by William S. Ivans, LaJolla, CA, Saturday evening following the Sept. 9th, NSM Expansion Dedication Banquet.

These lectures were named for the late Capt. Ralph Stanton Barnaby, USN, who, in 1929, broke Orville Wright's soaring record, with a 15-minute and 6-second flight over Corn Hill, Cape Cod, MA. In 1930 Barnaby demonstrated the feasibility of a glider launch from the U.S. Airship Los Angeles. He was a member of the "Early Birds," American pilots who flew before 1916. Barnaby, an ardent supporter of the Museum and frequent visitor to the area, died in Philadelphia in 1988.

Ivans, a former international record holder, was designated last March "Lifetime President of Honor" of the International Gliding Commission (C.I.V.V.) a division of the Federation Aeronautique Internationale (F.A.I.), the world governing body of all aviation and space records.

The Barnaby lecturer is a past president of The Soaring Society of America (SSA) and present member of its Board of Directors.

In 1951 he won the Lilienthal Medal for his world record altitude flight of 12,882 meters (42,100 feet). This recognition is considered the most prestigious in the global soaring community. That same year Ivans won the Warren E. Eaton Trophy, the highest award given by SSA for outstanding contributions to the art, sport and science of soaring in the United States.

In 1962 he was named to the United States Soaring Hall of Fame; two years later he won The Soaring Society of America's Exceptional Service Award.

In 1965 he was awarded the Paul Tissandier Diplome from the Federation Aeronautique Internationale.

This year's lecturer has written extensively on motorless flight both here and abroad and in his capacity as I.G.C. president has influenced many far-reaching decisions regarding international regulations.

Ivans opened his remarks by outlining the structure of the International Gliding Commission which meets for 2½ days, once or twice a year typically in Paris, although they sometimes convene in Vienna, Frankfurt, and once in Reno, NV.

The I.G.C. is the top body in the world regarding the organization and government of soaring competition, standards, badges, verification procedures, and world soaring records.

Ivans discussed a wide range of topics covered at this year's March, Paris meeting. Immediate attention was focused on last-minute rule changes for the 21st World Soaring Championships at Weiner Neustadt, Austria. One hundred and nine pilots and ships from 29 nations, including the Iron Curtain countries were in attendance. A special feature was the cooperation that the Hungarian government extended to the

contestants in permitting flights over their border with Austria. Ivans' group selected Minden, NV, as the site of the 1991 World Soaring Championships and central Sweden as the site of the 1993 contest.

Ivans told of American pilot, Doug Jacobs' quip at the World Championships, "If you want to make 40 Hungarians laugh uproariously, just land in one of their fields and ask them where the nearest telephone is...."

The next subject was World Air Games and the possibility of Olympic competition. There are three air sports which are recognized by the International Olympic Committee, gliding (soaring), hang gliding, and parachuting. Ivans emphasized that this recognition does not imply that these events will ever be a part of the games.

The choice of demonstration sports is from a list furnished to local organizers and there is considerable doubt whether any air sports will be represented at the Barcelona Olympics, four years from now.

Competition is keen for the selection of events to be included in these Summer Games. Ivans said organizers are very conscious of such matters as the possible revenues from television coverage of new events. Decisions are based on dollars.

This point was brought home as Ivans and the heads of the two other air sports met last July at Olympic headquarters in Lausanne, Switzerland, where they were told that there wasn't much hope of an admission to the coming Olympic Games.

Ivans continued that the F.A.I. management had come up with an idea for something patterned on the Olympic Games called the F.A.I. Air Games.

He pointed out that some thorny points must be resolved first, including the difficulty of having world class championships in conjunction with the other air sports at the same time of year and at a common venue. "As you know, gliding takes special weather," he said.

Ivans commented on the rapidly emerging popularity of motorgliding and motorgliding competitions both here and in Europe. He indicated that one of the reasons for this growth is that motorgliders can pass through restricted airspace where only aircraft that can hold altitude and headings and can communicate with ground controls are allowed.

A proposal was approved to organize the first Motorglider World Championship to be held at Issoudon, France in 1990.

Another suggested variation of this theme is an international motorglider fuel economy air race.

A proposition has been offered for a special category of world class competition for 10 to 15 year old sailplanes that still fly well, but that do not fit in the three major F.A.I. Championship classes, 15 meter, Standard, and Unlimited.

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(continued from page 2)

In order to be successful in these classes it is necessary to have the latest equipment and this is expensive, as it calls for continuing outlays for a pilot to maintain a top standing.

The club class was conceived as an alternative and is a somewhat less formal class of competition. It accommodates many gliders that are older and that do not fit well into the current top flight rules. In Europe, very successful club class championships have been established.

"In the United States," Ivans said, "we have a variation which I think is superior to the European approach called the Sports Class. In fact, in the competition just completed here today (Sept. 9, 1989) on Harris Hill, one of the classes involved was the Sports Class and some very good flights were made in that part of the Meet."

Ivans reported that Feminine Sailplane Championships are coming into prominence, with the 6th European Women's Championships being held last summer in Orel, Russia. "It's time to think in terms of Feminine World Championships," he said.

The Barnaby lecturer touched on the French Young Pilots Championships open to those pilots 25, or younger, The Hitachi Masters Championships and The Barron Hilton Cup Competition.

In the latter, winners, mostly overseas pilots are invited to Barron Hilton's Ranch, in Nevada, for a week of relaxation, soaring, fishing and tennis.

Air space is a serious subject in every country in the world that practices soaring, according to Ivans. There is a tendency in every country to increase the amount of regulation with respect to the sporting uses of air space. "The authorities seem to have a mind-set that leads them to have everything under positive control.... It's always a battle with air space authorities in order to maintain air space freedoms," Ivans said.

As a result of SSA president-elect Judy Lincoln's highly successful work last March, in beating back the U.S. Federal Aviation Administration's infamous airspace grab (NPRM 88-2), she was invited to speak before the I.G.C. Standing Committee on Air Space. Mrs. Lincoln was the acknowledged leader in this operation and was later asked by the Australian delegation to visit Australia, at their expense, to advise them on their airspace problem which, according to Ivans, "...is even more onerous than the one that we faced last year!"

Ivans reported that Ingo Renner of Australia, four-time World Champion was awarded the coveted Lilienthal Medal. It is regarded as the highest soaring award in the world and given, "...to reward a particularly remarkable performance in gliding or services on behalf of gliding over a long period of time..."

A Polish proposal for a Pelagia Majewska Medal was accepted by the international group. Majewska was an internationally-known woman pilot who set numerous sailplane records and was killed ferrying an agricultural aircraft in Spain. It will be awarded annually to a woman glider pilot for a particularly outstanding sailplane flight during the year or for a long period of exceptional service to gliding.

Ivans mentioned consideration being given to a possible new soaring badge. Bernald S. Smith, Fremont, CA, is the leader of a special ad-hoc committee looking into the further need for a soaring badge other than the Diamond and 1,000 km ones presently awarded. The proposed badge would be given for a series of flights that, when strung together would equal an around the world flight (approx. 24,901 mi.)... No decision has been reached. (Smith is a Trustee of the National Soaring Museum, an SSA Board Member, and a U.S. Soaring Hall of Fame Member.)

The speaker detailed the election process of the international soaring body and reported that his good friend, Bernald S. Smith, was elected as one of six C.I.V.V./I.G.C. Vice Presidents. After 14 years as I.G.C. president, Ivans was elected President of Honor, for life.

The World Class Glider came up for discussion. A major concern with the three F.A.I. racing classes (15 meter, Standard & Unlimited) is that sailplane technology keeps advancing and



U.S. Soaring Hall of Famers attending the 16th Annual Barnaby Lecture. From the left: Bernald S. Smith, Fremont, CA, Jack W. Laister, Apple Valley, CA, Paul A. Schweizer, Elmira, NY, Theodore E. Sharp, N. Hollywood, CA, Bill Ivans, LaJolla, CA, and Floyd J. Sweet, McLean, VA.

constructors keep coming up with new performance designs that involve correspondingly ever more expense.

The idea of the World Class Sailplane is to have standardized sailplanes, such as some sailboat racing classes. This would tend to minimize the obsolescent effect and produce enough world class sailplanes to bring down the cost, "to production numbers," Ivans said.

He referred to Paul A. Schweizer, Elmira, NY, as the principal architect of this idea. Schweizer traveled, at his own expense, to Frankfurt, Germany and to Australia where he gave papers on the subject. (Paul A. Schweizer is a Trustee of the National Soaring Museum, a Board member of the SSA and a member of the U.S. Soaring Hall of Fame.)

Ivans said the concept was first greeted with some skepticism, but has caught on to the point where a special committee was established within the International Gliding Commission to investigate the plan and, if possible, to get a unanimous feeling on specifications for such a glider.

"It's not easy to get a great many people with a great many ideas to come together on this and make it a reality," Ivans said.

"A general agreement on the technical specifications has been reached, but the second part remains to be done. This is an attempt to assemble a package that will be attractive to constructors. Economic, legal, and administrative needs must be satisfied before the program advances. The World Class Glider program will be discussed further at the October, 1989 Frankfurt meeting of the Gliding Commission," Ivans commented.

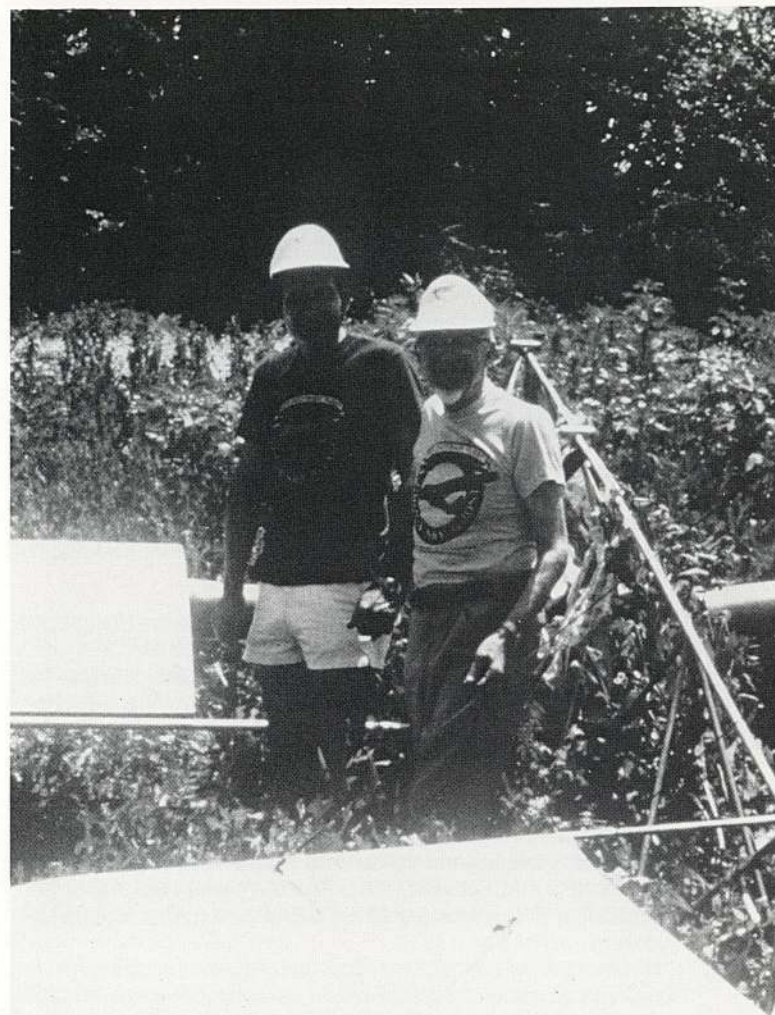
Ivans grinned as he spoke of the new I.G.C. president, Professor-Doctor Peter Ryder, "...an enormously well qualified and intelligent man. A measure of Peter's qualifications is that he is a British citizen, working in West Germany as a professor and consultant, and yet, for years has been the West German delegate to the World Gliding Commission. The Germans take gliding very seriously as a sport and they are not known historically to be overly fond of people from Great Britain. This tells you a great deal about Peter, just the sort of man he is."

This year's Barnaby lecturer closed by saying that he had a lot more that he would like to share with his audience but that maybe he would be invited back next year for the second installment. The over 150 attendees endorsed the idea with warm applause, and with questions and comments after the evening program.

ON THE COVER:

At the opening of the Elsinore Gliderport CA, circa 1952, Bill Ivans explains the workings of his world altitude record-holding glider (42,100 ft. Dec. 1950) to Kay Starr, TV and recording personality.

Photo by David Turner, Wildomar, CA.



1985 — Bernard Gross, left, with father, Dr. Frank Gross, examine the remains of the Gross Sky Ghost in a farm field outside Columbus, OH.

FROM THE EDITOR: The citizens of Akron, Ohio were honored June 29, 1985 by the National Soaring Museum, with the dedication of a National Landmark, commending them for their support of their area's soaring pioneers. In 1981, the NSM Trustees began a National Landmark Program to identify and memorialize sites, individuals or historic events related to the national history of motorless flight.

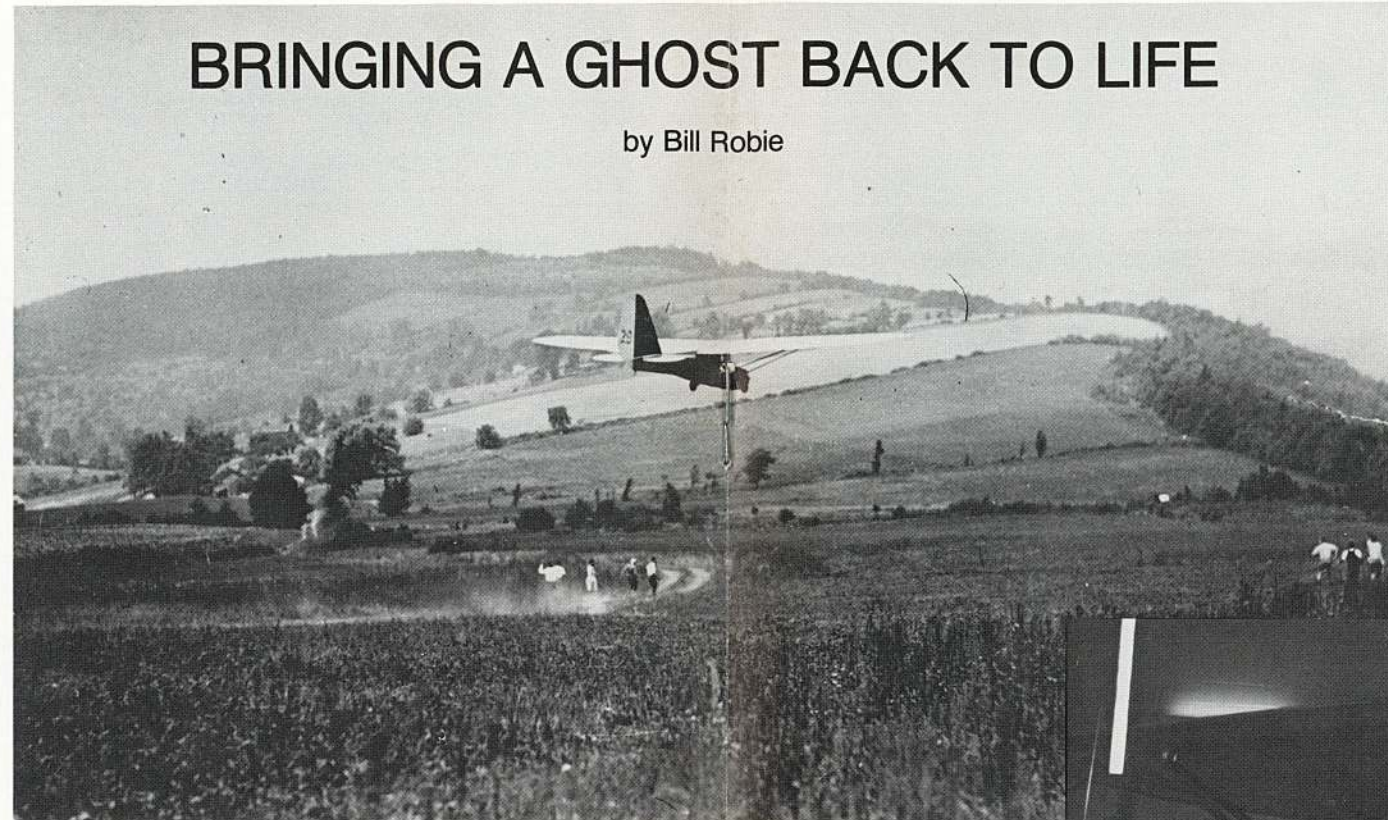
To celebrate the landmark dedication, special ceremonies marked the 50th anniversary of U.S. Mail Glider-tow from Akron to Columbus, Ohio, in a four-place glider, designed by Frank Gross. Following the plaque presentation, the historic flight was re-enacted in a modern two-place Grob Acro sailplane, piloted by Gross' son, Bernard Gross, with the elder Gross acting as co-pilot.

Like the original, this glider carried 2,500 cachets (envelopes) with special postmarks commemorating the flight. The Museum has 500 copies of these cachets for interested philatelists.

The re-enactment ceremonies for the first U.S. glider airmail flight, from Akron to Columbus, Ohio, were over. Instead of going home as planned, however, many of the participants found themselves standing among shoulder-high weeds in a farm field outside Columbus, Ohio. They were looking at the remains of an airplane draped in old shower curtains and rags. Aluminum pie pans were wrapped around sections of the bent tubing and only a few weathered shreds of fabric hung from the tail section. The corroded pieces did not look much like America's first two-place,

BRINGING A GHOST BACK TO LIFE

by Bill Robie



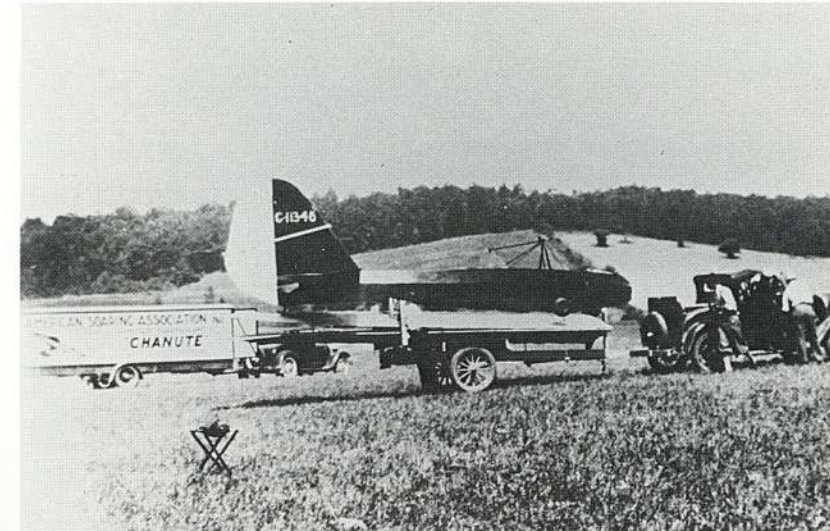
Above: The Gross Sky Ghost, bungee-launched from Harris Hill in 1932. (Sky Ghost pictures from this era are from the NSM photo Collection).

dual-control, sailplane, but it was unmistakably Frank Gross' famed *Sky Ghost* which had been "lost" for nearly fifty years.

Gross built the machine in 1931 at the Baker-McMillen Company in Akron, OH. The Department of Commerce issued registration (not license) number 11348 on October 21 of that year under the designation "Gross IV". Gross and his crew took the plane to Elmira, NY late that year. There, Howard Funk piloted it on a flight of more than two hours' duration. The "Ghost" was damaged during a bungee launch off Harris Hill and it had to be taken back to Akron for repairs.

The plane returned to Elmira for the 1932 national competition, but Gross was told he could not fly it because new government regulations required a plane to be licensed. Gross was not yet a U.S. citizen and could not legally be the owner of a licensed airplane. He solved the problem by selling the plane to Joe Funk for one dollar, then retained a lien against it for its full value. The Department of Commerce official at the meet performed an on-site inspection, wired Washington, and received approval for certification all in the same day. During the 1932 meet the *Sky Ghost* set numerous records for endurance flights but, because there was not yet a category for multiplace sailplanes, the records were unofficial. The longest flight the plane made during the competition was more than 6 hours, piloted by Pratt Jones of Akron.

Americans were suffering from the economic depression of the 30's and Gross could not afford an expensive hobby. The sailplanes had to pay their own way. He started the Gross Sky Taxi Company and charged one dollar for a flight above Akron airport. Joe and Howard Funk, later the designers and manufacturers of the Funk airplane, were the pilots for the company. "We almost wore that plane out," Howard said in a recent telephone interview. "When there were no paying customers — which was most of the time — we flew the plane for our own enjoyment." The Funks have dozens of stories about ridge soaring the huge, barn-like Goodyear dirigible dock (hangar) and the hill that is now the home of the International Soap Box Derby. With the Funks and other local pilots at the controls the *Sky*



The Sky Ghost de-rigged for towing, circa '31 or '32.

Right: Bill Robie, restoration project director, with the *Sky Ghost*, ready for exhibit at the NSM. (White vertical at left is out-sized yaw-strip similar to one used on that ship in the 30's).



Ghost was bungee-launched, launched by auto tow, and pulled aloft by both power-planes and the Goodyear airship *Defender*.

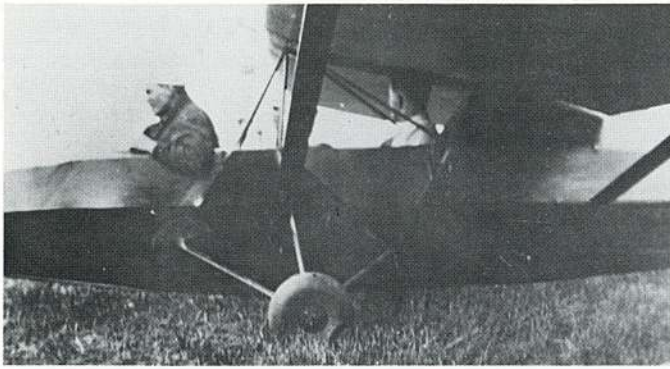
Attempts to market the two-place design were unsuccessful. Gross built a four-place machine and placed the *Sky Ghost* up for sale. In 1933 Bruce Helvie helped arrange for the Albatross Glider Club of the Cincinnati Y.M.C.A. to buy the plane. It was "refinished" and used as a trainer until 1938, then sold to the Ohio State University Glider Club. It is not clear what happened to the plane at Ohio State because the gliding club never responded to requests by the Department of Commerce to register the plane. There are indications that it was damaged soon after the club acquired it and Harry Bauer from Gahanna, Ohio, bought the wreckage and took it to his farm.

Much of the original plane was missing. Most of the wood was deteriorated; only one useable wing spar and some parts of the ailerons remained. The job at hand was to conserve as much original material as possible, repair that which could be salvaged and expected to remain intact for the lifetime of the restoration, and replicate the missing pieces as accurately as possible. An examination of the steel tubing revealed that someone attempted to protect the fuselage by coating it with a plastic-based roof paint. This paint probably saved the metal from complete destruction, but it also hid more extensive rusting than was first believed to exist.

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The rebuilt Gross Sky Ghost being assembled for exhibit at the NSM, Restoration Facility.



Pilot, Pratt Jones, Akron, OH, front seat, takes a NY State Senator for a flight in the Sky Ghost, circa 1932 at Harris Hill.

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Several layers of paint were removed using a sandblaster with fine abrasive and low-pressure air. The bare metal was treated with dilute phosphoric acid and sprayed with a thin coat of zinc chromate for protection. This allowed the extent of damage to be evaluated and a determination made as to how much of the original plane remained. The entire fuselage was bent more than three inches out of alignment. It appeared the plane had hit very hard on the left wing and been rather badly repaired. Perhaps this was damage from the plane's last flight. The nose, too, had been reworked in a sub-standard manner. It is doubtful that the plane was ever flown after this repair attempt was completed. Many important parts such as the plane's conventional landing gear, rudder pedals, and rear half of the torque tube assembly were missing, but much of what did remain appeared to be original.

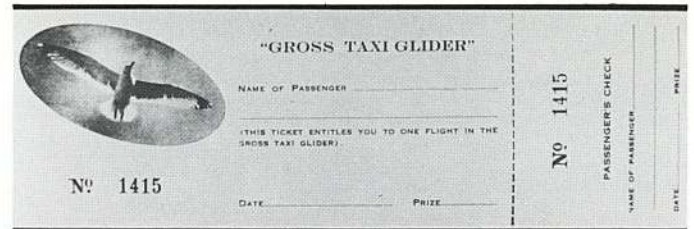
A search for information about the plane began. Dr. Gross had many photographs and still had the original blueprints for the wings and many other components. Bruce Helvie furnished a photograph that showed the 1932 tail markings and the Funk brothers contributed information from memory, as well as photocopies of their early logbooks. In one of those rare instances of extreme good fortune, the Federal Aviation Administration still had microfilm copies of the records for the *Sky Ghost*. Their representative in Oklahoma City was enthusiastic about the project and very helpful in retrieving these from federal storage.

To which configuration should the *Sky Ghost* be restored? An examination of the photographs showed that the plane was frequently modified. Very early on, Dr. Gross discovered the plane had too much vertical stabilizer and reduced its size. Photographs indicating a change in the positioning of the lower longeron were supported by evidence on the fuselage. The shape of the nose was changed often in efforts to streamline the aircraft. The most practical approach seemed to be to restore the plane as it was when it competed in the 1932 Elmira meet. Not only did this allow the use of nearly all the existing material, it preserved the plane as it was in its finest hours of flight.

There were no blueprints for the landing gear and the shape of the nose. By scaling out photographs and building mock-ups the dimensions of these were determined and reproduced. The rusted-through pieces of tubing were welded solid again, then filed and shaped by hand until it was impossible to tell that they were repaired. The tubes were then filled with a commercial corrosion inhibitor for future protection.

The wing ribs and jigs were manufactured using a method described in the construction plans for the 1930 Heath Parasol. The uncovered spruce wings were truly beautiful. Their double-cambered, tapered shape washed out slightly at the tips for stall control. Even though they were covered using the same type cotton fabric as the original, it seemed a pity to hide the woodwork.

The question of the correct paint scheme was never conclusively answered. It seems that the plane was painted all black at one time, and all white at another. Examination of several photographs indicated it had a black fuselage and stabilizers with



Gross Taxi Glider ticket-\$1, good for one flight over the Akron, OH, airport.



"Landing gear broken.... Guy on wing-tip held on too long." (comment attached to photo).

silver wings and tail control surfaces during the 1932 Elmira meet. If there is an error in this, it is that of the author. The finishing touches — license and contest numbers — were taken directly from photos, enlarged, and painted to simulate the hand-painted numbers on the original machine.

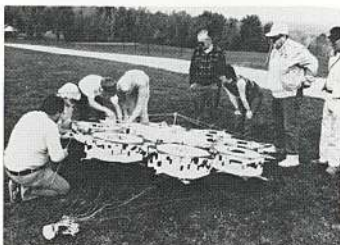
As the restoration got underway it evolved into an unofficial East Carolina University project. The assistants, Wilma Barnhill (Art Dept.), Professor Walter Calhoun, Joseph Hughes, Colin Bentley, Colin Barnett (History Dept.), John Hawa (School of Business), and John Ghee (Industrial Technologies), each brought their own talents and insights to the effort. It is impossible to describe their dedication. Because of them and the generosity of Dr. Gross, the *Sky Ghost* now belongs to the National Soaring Museum and to the public, but the soul of the plane is the unique property of these individuals and the original builders and pilots. They gave life back to a ghost that refused to die.

BILL ROBIE, project director for the *Sky Ghost* restoration, is a Master's Degree candidate in American History (aviation emphasis) at East Carolina University, Greenville, N.C., and a graduate intern at the National Air & Space Museum (Smithsonian), Washington, D.C.. His active experience in aviation covers 20 years as a parachutist, pilot, and ultra-light aircraft instructor. He has logged over 2,000 hours in more than 50 different aircraft.

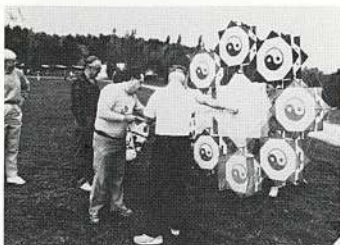


NSM staff and volunteers with the assembled Sky Ghost, ready for exhibit. From left: Bill Robie, Melissa Storch, Terry Wheet, Peg Gallagher, and Jennifer Trimmer. Standing: from left: Mary Flaspahler, Ralph Gernert, and wife, Veronica.

NSM kite advisor Bill Connor, Horseheads, NY, flies his international prize-winner "Chinese Connection"



Intricate assembly



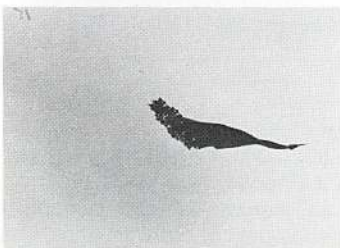
Checking the rigging



Getting ready to launch



Let go!...Run!...



Gracefully skyward...!



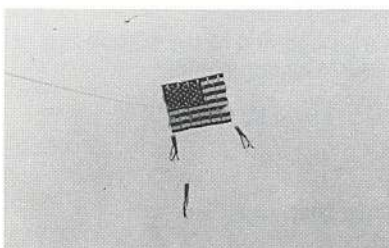
Mom to the rescue....

THE NATIONAL SOARING MUSEUM'S FOURTH ANNUAL KITECITEMENT KITE-FLY.....

Last October 14th, the sky over the National Soaring Museum was filled with deltas, fighters, boxes, rakakus and other kites that defy classification. It was the NSM's Fourth Annual Kitecitement kite-fly.

There were as many as 22 kites in the sky at one time!

If you didn't make it this year, plan on saving Saturday, October 6, 1990 for the NSM's Fifth Annual Kitecitement....



A Stars & Stripes kite over Harris Hill



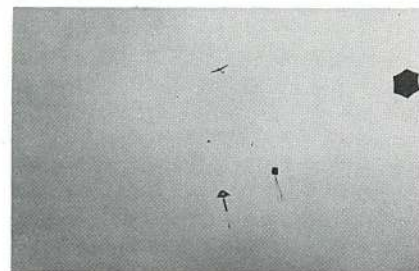
"Stunters" awaiting their turn.



A Burmese fighter kite.



Kiting by the seat-of-your-pants....



A sailplane sneaks into a gaggle of kites....



....A little professional advice for a little kiter....



Oops!...Lines crossed...



... Bad gust ... 3 more crossed...



5 untangling....1 flying...!

1990 CALENDAR OF EVENTS

Date	Event	Location
Feb. 12-17	The Soaring Society of America National Convention	Indianapolis, IN
May 6-11	NSM Elderhostel Program	Watson Homestead, Painted Post, NY
May 18	International Museum Day	NSM
May 25, 26, 27	1990 NSM Exhibit Opening United States Soaring Hall of Fame Induction Ceremonies & Banquet National Soaring Museum Trustees Annual Meeting	NSM
May 26, 27, 28	Vintage Sailplane Regatta VSA Annual Meeting	NSM/Harris Hill
June 4-10	National Soaring Week	NSM
Sept. (date to be announced)	Commemorative Celebration of the 60th Anniversary of the First National Soaring contest	NSM
Oct. 6	Fifth Annual Kiteciment Kite-fly	NSM/Harris Hill
Oct. 6, 7-13, 14	Fall Foliage Weekends	NSM/Harris Hill
Date to be announced	17th Annual Ralph S. Barnaby Lecture	To be announced
Nov. 23, 24	Annual Snowbird Sailplane Regatta	NSM/Harris Hill
Dec. 7	Community Soaring Committee Luncheon	NSM
By Reservation	NSM Educational Outreach Programs: "History Of Soaring" "The Wright Brothers and the Beginnings of Soaring" "The Glider War, 1940-45"	As Requested

A Reminder.....

While the new National Soaring Museum Expansion was dedicated in September, you still have an opportunity to become part of one aspect of soaring history by having your own brick. It will be laser engraved with your name and cemented in our permanent wall display or, you may wish to be recognized on the special Diamond Plaque.

WALNUT BRICK	\$ 500	DIAMOND PLAQUE
W/SILVER EMBLEM	\$ 750	\$10,000
W/GOLD EMBLEM	\$1,000	\$5,000 \$2,500

The bricks are walnut, laser engraved, 2 1/4" x 5 3/4", with the donor's Name, City, and State. All levels of support are welcome and will be acknowledged. We will send engraved certificates for \$100 or more.

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 interested succeeding generations.

Address: Shirley Sliwa, Director
National Soaring Museum
Harris Hill, RD #3, Elmira, NY 14903

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 given.

Publisher — National Soaring Museum

Director — Shirley Sliwa

Editor — Bill Gallagher

The National Soaring Museum is an affiliate of The Soaring Society of America and, as such, is the official repository for all its artifacts and memorabilia.