

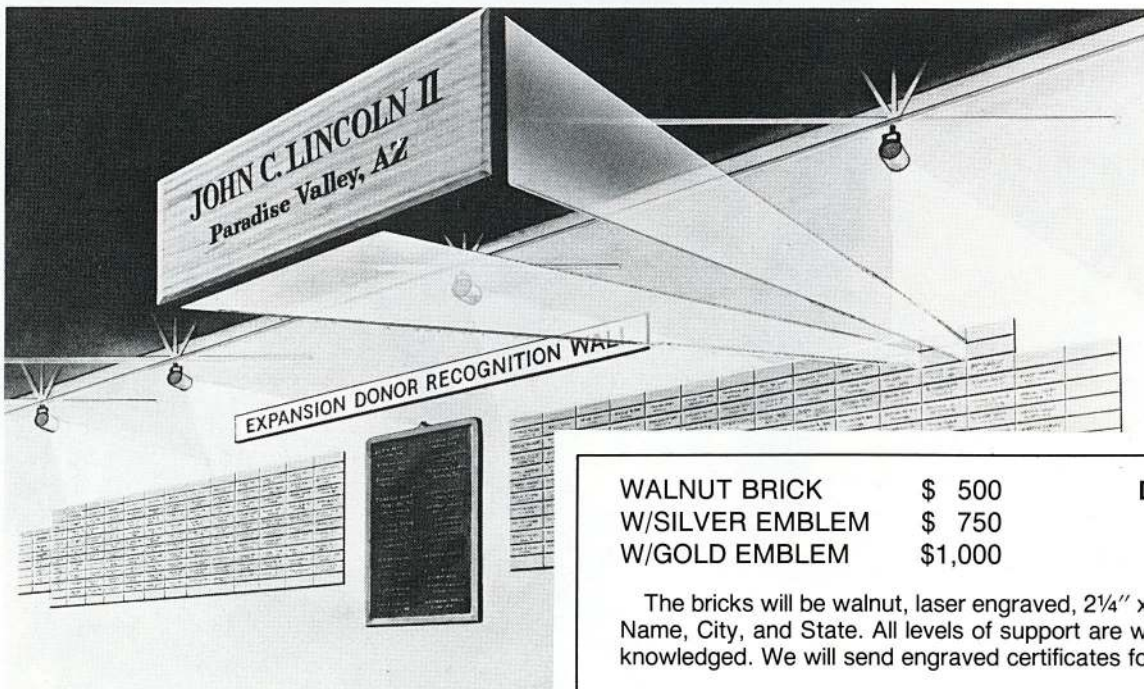
NSM

A Quarterly Journal
of the National Soaring Museum
Fall 1988 Vol. 11, Number 2



1989 CALENDAR OF EVENTS

Date	Event	Location
May 18	International Museum Day	NSM
May 26, 27, 28	1989 Exhibit Opening 50th Anniversary Schweizer Aircraft Corporation Evolution of the National Soaring Museum 25th Anniversary of the first 1,000km flight by Al Parker United States Soaring Hall of Fame Induction Ceremonies and Banquet National Soaring Museum Trustees Annual Meeting	NSM
May 27, 28, 29	Vintage Sailplane Regatta VSA Annual Meeting	NSM/Harris Hill
June 5-11	National Soaring Week	NSM
August 16	Twin Tier Hangarfest Pilots Outing	Harris Hill
Sept. 2	Region III Practice Day	Harris Hill
Sept. 3-9	Soaring Society of America Region III Sailplane Championships	Harris Hill/NSM
Oct. 7, 8, 14, 15	Fall Foliage Weekends	NSM/Harris Hill
Oct. 14	4th Annual "Kitecitement" Kitefly	NSM/Harris Hill
To be Announced	16th Ralph S. Barnaby Lecture	To Be Announced
Nov. 24, 25	46th Annual Snowbird Sailplane Regatta	NSM/Harris Hill
Dec. 8	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



THE NSM IS EXPANDING WITH BRICKS OF RECOGNITION

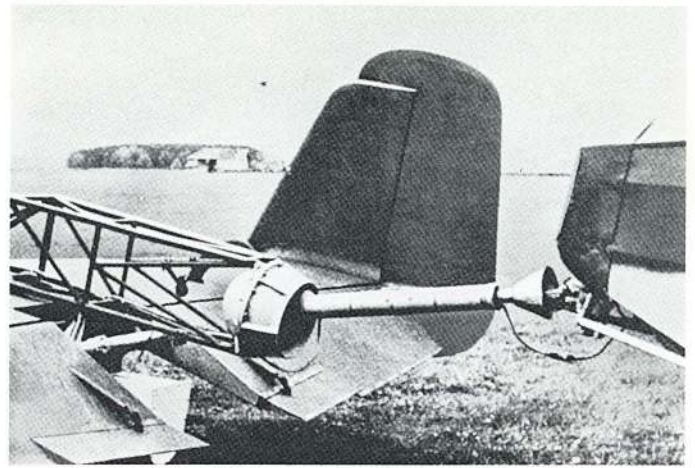
Become a part of one aspect of soaring history for succeeding generations by having your own brick, laser engraved with your name in our permanent wall display; or be recognized on the special Diamond Plaque.

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

The bricks will be 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.



Rudy Opitz, center, talks with Wolf Elber, Master of Ceremonies and Mrs. Frauke Elber, at the 15th Annual Ralph S. Barnaby Lecture, Hampton, VA.



Rigid tow bar arrangement, showing the large bearing cage attached to the Dornier Do 17 tow plane.

THE NATIONAL SOARING MUSEUM'S 15th ANNUAL RALPH STANTON BARNABY LECTURE BY PAUL RUDOLPH OPITZ

The slightly built gray-haired ex-test pilot with the piercing eyes strode up to the speaker's lectern with a vitality that belied his 78 years. "Let me take you back in the history of gliding . . . about 49 years ago . . ." he said. From that moment on Barnaby lecturer Paul Rudolph "Rudy" Opitz commanded attention so concentrated that you could hear the click of a cigarette lighter in the audience.

The NSM's 15th Ralph Stanton Lecture was hosted by the Tidewater Soaring Society, October 29, 1988 at the Holiday Inn in Hampton, VA.

The annual lecture is named for the late Capt. Ralph Stanton Barnaby, USN, who was a member of the "Early Birds," American pilots who flew before 1916. In 1929, Barnaby broke Orville Wright's soaring record with a 15-minute, 6-second flight at Corn Hill, Cape Cod, MA. In 1930, he demonstrated the feasibility of a glider launch from the Navy airship Los Angeles. Barnaby headed the Navy's WW II glider program and was responsible for many advancements in motorless flight. He was one of the Founding Fathers and former President of The Soaring Society of America and was Honorary Vice President of the NSM until his death in 1986.

SSA Region 4 Director and Museum Trustee, Floyd J. Sweet, McLean, VA introduced his old friend, Rudy Opitz, outlining Opitz's background. Sweet said that Rudy started his gliding career on the famous German Wasserkuppe in 1932, later instructing there and building a high performance sailplane. From 1936-1937, he was a flight instructor in cargo gliders and power planes with DFS (Deutsches Forschungsinstitut Fur Segelflug) a German research institute. Later he was a test pilot for research on the flying wing which the renowned German aerodynamicist Dr. Alexander Lippisch designed.

Opitz was at the Luftwaffe Rocket Research Center at Peememude, from '41 to '45, where he tested the Messerschmitt ME-163 rocket plane, staying with that program until 1944 when it went operational. Sweet chuckled, ". . . and he almost ranked me when he came to this country. He was a Luftwaffe Captain, and went to Wright Patterson (AFB) from Germany. I think that we 'shanghaied' him in one of our 'paper clip specials.'" Sweet, CAA (Civil Aeronautics Authority) designated Examiner, said that when he checked out Opitz he had no sense of the controls moving, but every maneuver was carried out perfectly.

From 1956 until his 1976 retirement, Opitz was a test pilot and supervisor for flight operations at the Gas Turbine Division of AVCO-Lycoming, Stratford, CT.

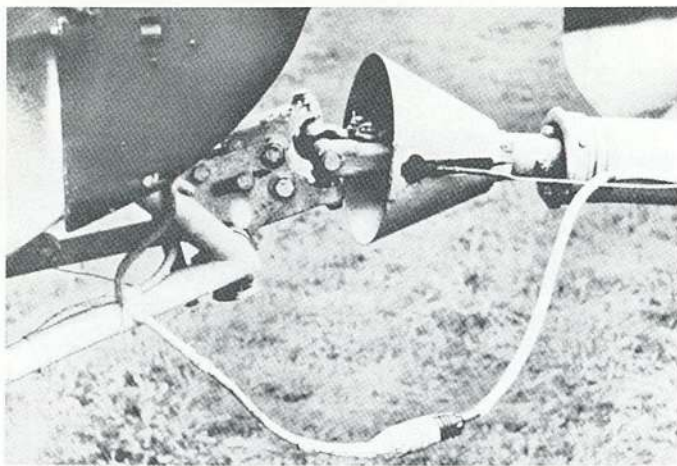
Sweet met Opitz during the American rigid tow project. "Rudy had experience in this area and I had none," Sweet said. ". . . and I prevailed on the authorities to let him fly co-pilot and share the experience, knowing that I had a safety valve with me. A little bit after that, when he got hold of that Horten IV flying wing, I got to return the favor by towing him on his first flight." Sweet continued, "Rudy is a Certified Flight Instructor-Glider and has contributed a lot both in the military and as a civilian. He's probably the most experienced person in this room . . ."

Opitz spoke of the opening days of WW II and the May 10th, 1940 air operation that changed the nature of air warfare for all time. "Forty of the (DFS 230) cargo gliders that we had at that time spearheaded the offensive," Opitz said. In the very early darkness they took off from two airports near Cologne with orders to occupy and hold Belgian Fort Eben Emael and three heavily fortified strategic bridges spanning the Albert Canal. The gliders and their 3-engine Junkers JU 52 tow planes were staged three abreast, for formation take-off at 30-second intervals to keep the formation together. They headed for a common release point 8,000 feet over German territory. Despite the early skepticism of many military experts, the operation was a stunning success. Within one day the fort fell, and two of the three bridges were captured intact, opening for the German forces a corridor 40 km wide. This was the first use of gliders in wartime. Opitz said, "For Germany it changed things radically. Cargo gliders were at a very low priority at this time. Then, there was a major push, in every direction, to get gliders and glider pilots."

The DFS 230 used in that operation was designed and built in 1935 as a research glider and was tested by the famous German pilot, Hanna Reitsch. DFS organized a school for Luftwaffe pilot training where some 50 pilots received basic training, pilot certification, advanced training including cross-country flight proficiency and, finally, transition training for the DFS Cargo Glider.

"At this time, at the school, we were unaware of the existence of a Glider Corps," Opitz said, continuing. "As flight instructors, we always wondered what would be the end usefulness of cargo gliders . . . We had no idea what the Luftwaffe had in mind for those gliders. Our longest towline was about 100 meters (about 330 feet) of braided steel cable. On occasion, we would cut those towlines to retrieve a glider that had landed in a field. Even that would be too long to tow a cargo glider out, especially in poor weather."

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A detail of the rigid tow bar attachment to the DFS 230 cargo glider.



Looking aft from a Dornier Do 17, towing a DFS 230 cargo glider using the rigid tow bar.

These and the preceding German rigid tow bar photos are from "Kampf und Lastensegler-DFS-230. DFS 331," the James E. Mrazek

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Opitz said that they analyzed their operation and realized that part of it was the timing involved between the glider and the towplane. If the towplane suddenly goes down, the glider is out of position, which is no problem if the tow line angle is kept small. With a very short rope there wouldn't be those big differences going out of position. The glider would fly into gusts practically at the same time as the towplane and the glider would stay in relative position. The pilot would make fewer and smaller corrections. The speaker illustrated the relative positions with his hands. The negative part of that idea was that if you were pushed out of position by gusty air or over-controlling, you would have very fast and very big towline angles. A large towline angle would seriously effect the towplane because, as Opitz pointed out, the cargo glider's wing would act as a huge elevator on the towplane and would make it very difficult for the towplane pilot to maintain his flight path.

Relishing the anticipation of his audience, Opitz went on to explain, "One day we decided to find out — so we just cut our tow rope in half, then in half again. 'That's still not good enough,' we said, and cut it in half again. We came down to 2 meters (about 6.6 feet)." An audible murmur ascended from the meeting at this point. "So, we flew the sailplane, a two-place trainer with a 2-meter tow rope, and since we had thought the thing through, it went quite well," he said.

The lecturer emphasized that it was vitally important to be smooth and precise on the controls because any P.I.O.'s (pilot induced oscillations) on take-off probably could not be corrected by the pilot. He added that it was somewhat intimidating to look up the first time that close behind the tow plane. Next they decided to try the short tow-line with cargo gliders. For the tests, the DFS 230 cargo glider was towed empty behind the Junkers JU 52 transport. "It looked very intimidating from the cargo glider cockpit. Also, you had to strain your neck to see the top of the massive single rudder of the JU 52," the speaker said.

All these flights took place without incident but the pilot stress and fatigue was high. Short tow rope flight capability was demonstrated for cross-country, day and night flying. As Opitz pointed out, smiling, "They figured that they could fly any time, because they certainly wouldn't lose sight of the tow plane any more."

As a safety measure we added a second tow rope with a little built-in slack to the same tow rings. It would takeover in case of a break in the prime tow rope and protect the crew from the hazards of an off-field landing on cross-country flights, especially at night.

With the experience gained from these flights using the short tow line it was decided to go one step farther and tow rigid. "What we had to do was guard against excessive tow-bar angles, because as previously mentioned, if you got too far out, you take over control of the tow plane. The other problem was dampening.

When we had the short rope, we had none. Flying with those very short tow lines had nothing to do with engineering; that part had to do with pilot technique." Then, Opitz said, the DFS engineers took over. They designed and constructed a rigid tow-bar 2 meters in length that would meet our request for limited angular tow-bar movement and would also provide dampening of the tow-bar movements in flight. It was accomplished by attaching a large ball joint to one end of the tow-bar. The inside wall of the ball joint cage was covered with brake lining dampening the movements of the tow-bar. The opening rim of the ball joint cage provided the limits for the angular tow-bar movements. The other end of the tow-bar carried a universal joint with a tow ring to attach directly to the tow hitch of the cargo glider. The speaker described a series of slides (five of which appear with this article) showing the tow-bar arrangement. The rigid tow-bar procedure was accepted by the Luftwaffe in 1943.

Rigid bars were installed on Heinkel 111's, Junkers, JU 52's, and Dornier Do 17's, as shown on some of the slides.

On supply missions, cargo gliders stayed hooked up until the combination was over the field for landing. Then, the glider released and landed along side the tow plane. The cargo gliders did not land connected to the tow plane.

"At this time," Opitz said, "I was not associated with the glider program. After training the 50 pilots previously mentioned, more arrived. Some were assigned other jobs in the Luftwaffe and some went back to their units where they became the nucleus of cargo glider operations.

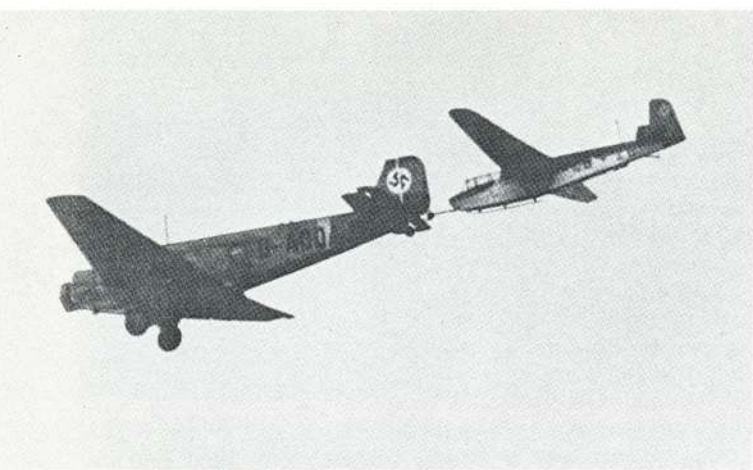
"So when war broke out, I think that they had some 50 gliders, and 40 were assigned to the Eben Emael/Bridges Missions. But when the planning started back in '39, they didn't have so many glider pilots, . . . so they called up experienced glider instructors to active duty, including me and several others at DFS . . . I flew one of 10 gliders assigned to capture the northern most bridge over the Albert Canal during the Eben Emael Mission."

After the war, in 1946, under contract with U.S. Air Force, Opitz was sent to the States and Wright-Patterson Field. In December of that year, he was invited to a briefing with two officers from a cargo glider unit headquarters in South Carolina. The Air Force had developed some intelligence information concerning the Luftwaffe's use of the rigid tow. "I received travel orders along with my good friend and colleague, Ben Hohman, to go to that South Carolina glider unit. Of course, that was 1947 and we were not exactly welcome as German Nationals," Opitz said.

"We were considered as guests there and were to assist in building a rigid tow unit. I had only very general information on that project before we came.

"They had built one and, as far as I know, they had flown with it. We found disappointing results. I think it was a matter of not enough good information and poor judgment. I had heard that

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Junkers JU 52 transport towing a DFS 230 cargo glider using the rigid tow bar technique.

ection, NSM Archives.

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they bent the tail of a C-47 (Douglas transport) and really bent the tow bar. Of course, they didn't have any dampening device; they just had two universal joints at either end of the tow bar — no dampening devices, nothing."

Both Hohman, who did the engineering part, and Opitz, who did the flying, started on the project. The Air Force facility had the capability to manufacture the ball joint and tow-bar components. Opitz, in an effort to become acquainted with American equipment, flew daily but did not have pilot status because as a German National he was not eligible for an American pilot's license. However, he did gain experience in the CG-4A, the CG-15 cargo gliders and the snatch glider pick-up. "Where you fly over the glider and you pick up its towline in flight, and reel it up like a fish," he said. Opitz recommended the C-46 (Curtiss Commando) for the rigid tow-bar operation because he thought it was a better airplane due to a more favorable gross weight ratio between the CG-4A and CG-15.

Within eight weeks, they had the new system in place and were prepared for the first flight. Again Opitz was assigned to the co-pilot's seat, and at this point he said, "No gentlemen. I will not be in the right seat just to look it over . . ." He went one step further, "I want control if I am going to be responsible for the operation."

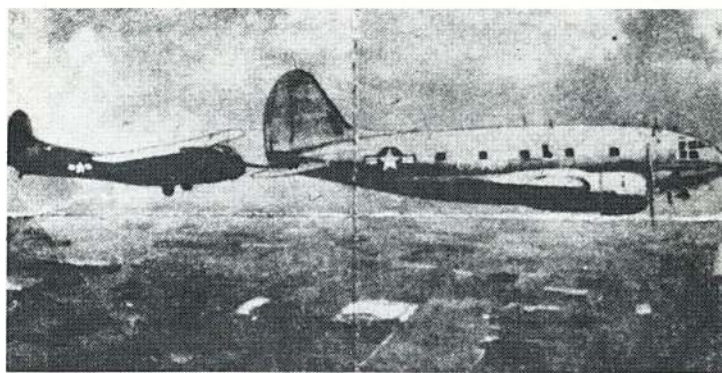
So he flew as pilot-in-command but officially the time was attributed to the Air Force pilot who was acting as co-pilot. However, he was assured of flying as pilot, and of having no outside interference. He and his co-pilot switched seats to give the co-pilot experience. Both flights went very well.

Opitz recalled that during the time that he was involved, there were no incidents, premature releases or hazardous conditions and that the program went smoothly.

He mentioned that in 1947 cargo gliders were not in very high demand and the whole cargo glider operation was winding down. While it took a while for the program to be successfully completed, the rigid tow-bar never became operational.

Opitz remembered the Air Force Day Annual Air Show at Wright Field was always a big affair and rigid tow fly-bys were a big feature for many years after. "Floyd (Sweet) belonged to that unit at Wright Field and that's where I met him," he said.

When someone in the audience asked if it would be practical to use a rigid tow to bring the space shuttle back from California to Florida, the Barnaby speaker replied, "I was not involved with the space program, but one day I received a phone call from a space project official who asked me, did I have any ideas on how the shuttle could be transported from California to Florida. Since I had experience with all kinds of tows, I said why not try to fly it on top of an airplane? He said '...you're crazy,.....you're just crazy...' So I said maybe you could tow it behind.....So, since then no one from the space program ever called again."



The first successful use of the rigid tow bar technique in America, circa Feb. 1947. Rudy Opitz piloting a CG-15 cargo glider behind a Curtiss C-46. (Dayton Journal reproduction from Rudy Opitz)



Rudy Opitz at the 1952, Toledo, OH 5th Midwest Soaring Contest, making last minute adjustments on the Horten IV Flying Wing that he restored.

Asked if it would be practical to use rigid bar tows with modern private towing, the Luftwaffe veteran discouraged the idea, saying, it would require an expensive modification to a small single engine tow plane. "Tow ropes are cheap and tow hitches are easy to install on any tail wheel structure. A long tow rope is predictable."

That question led Opitz to comment about his experiences with the innovative Horten IV flying wing sailplane. This concept was developed by the Horten brothers in Germany during the early 1940's. Opitz agreed to rebuild one in this country if the owner would let him fly it in competition for the season . . . without insurance. While Opitz was not connected to the Horten program in Germany, he felt that the opportunity to fly it offered a unique challenge.

"I took off and I had my hands full," he said, "I was very glad that Floyd (Sweet) was towing. I realized . . . the inadequate directional stability of that aircraft, so that even when I towed with the longest tow rope, that the tow angle, if I departed from the ideal position would become critical. I managed to come high enough to make it back to the airport and make a good landing."

After the somewhat shaky maiden flight, Opitz took off the next day for a Meet. "I was ready to fly," he said, "I just ordered a tow rope 300 feet long and all my troubles were over, because the tow rope angle was small enough to handle."

The Horten IV flight with Sweet was the only one that was not in competition that season.

"I won two Meets in the Horten IV," Opitz said, "then I went to the Texas Nationals; I insisted on the 300 foot tow rope or I wouldn't take off. Anyway, I found out that Texas is a big country and I got lost on one of the tasks . . . and that cost me because I couldn't make it up in the end. Even so, I finished 7th...."

As Floyd Sweet said, "Rudy Opitz is a hands-on pilot....." Opitz is still active in soaring and is SSA Governor for Connecticut. His sons Michael and Martin, both sailplane pilots carry on the family tradition.

FROM THE EDITOR:

The first day of Fall '88 saw a visit by Jack W. Laister, pioneer glider and sailplane builder. He was armed with a camcorder and, after some prying on our part, told some stories about his association through the years with some of aviation's greats and near-greats. General "Hap" Arnold, Col. Fred Dent, Richard duPont, Chet Decker; the names and incidents were recalled as if there was no such thing as the passage of time.

We asked him to pose by a picture of his huge Laister-Kauffmann CG-10A cargo glider that is displayed in the Museum's WW II corner. Glancing at the picture he commented on how, during the war, Col. Dent called him to his office in Dayton and showed Laister plans for the British Horsa combat glider that were marked secret. Dent asked Laister what he thought of it and Laister said that he didn't like the aircraft because you had to disassemble a 75 mm field piece to get it in, and even then it was side loading. He told Dent that he had landed in enough fields and banged enough glider noses to know that you wouldn't want to unload a cargo glider from the front. The back end of the Horsa blew off to effect rear exit.

Dent said, "All right, if you're so damned smart, you design one." Laister said that in 10 days he drew a three-view of a rear-loading glider and sent it to Dent. The Colonel called and said that the authorities liked the idea and to go ahead with it.

Driving home, Laister thought about it and concluded that his organization was too small to build such a huge glider and later told Dent so. Our visitor told Dent that Laister-Kauffmann should be the prime contractor, but that the L-K organization did not have the facilities to build the 105 foot wing-span, 12,150 pound monster glider. Dent called back and said to go ahead with the project anyway, even though Laister protested that his organization did not have the facilities. Dent replied that the Army would furnish the plant and he would arrange the banking.

Laister smiled as he continued, "When we were well into the project, Randy Chapman, of the engineering department, approached me with a serious problem. The CG-10, 'Trojan Horse's' wings were to be made entirely of wood, because of the wartime aluminum priority; and the wood stress tests showed that the main wing spars would not support the aerodynamic loads that they would be subjected to." Laister said this placed the whole program in serious jeopardy. Chapman came up with the idea of a sandwich design whereby the wings' skin, top and bottom, would be strong enough, along with the spars, to carry the aerodynamic load. This sandwich design was about an inch thick with thin plywood on the top and bottom and spruce strips sandwiched in between.

When it was learned that no molds were available for the wing, Laister had one made of concrete and obtained rubber ballooning from the Goodyear Company for the top. Materials existed for only one mold, so the airfoil was re-designed slightly, allowing both wings to be made in one single mold.

Laister spoke at length on the error of the military's cancelling the glider program. It has been shown that in many subsequent military operations, materiel could be landed in much shorter landing zones (LZ's) with gliders, even though paratroopers are still the best way of bringing in personnel. In Iran for instance, gliders would have been the best way to bring in materiel. Our visitor also mentioned that low level drop passes using C-140's and C-5's sometimes result in damage to the materiel when it lands on its side.

The giant CG-10 was originally designed with skids Laister said. "But then it would be so hard to maneuver on the ground that we put wheels on it."

While he was shooting videos of the Museum, he scanned The Soaring Society of America's Founding Fathers' panels and remarked on Earl Souther, Ralph Barnaby and Warren Eaton. He said that Warren Eaton's widow was going to donate Eaton's trailer to the Smithsonian. Laister called her to ask if he could buy it for his "Yankee Doodle" sailplane, which had been invited to participate in the 1939 Paris Air Show. Rather than placing it in the

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Sailplane designer and builder Jack W. Laister, in front of one of the NSM's WW II panels showing the giant CG-10A Laister-Kauffmann Trojan Horse, the largest cargo glider produced in the United States.



The GALICHINA Ukranian Folk Ensemble and hosts arrive at the NSM on the Chemung trolley. At left: NSM Trustee and translator for the occasion, Walter J. Korchynsky, right: NSM Trustee, George Edwards. Harris Hill board member, John Miller is standing next to Edwards.



Participants in the 3rd annual NSM KITECITEMENT kite fly at Harris Hill Park.

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Smithsonian, she gave it to Laister. The "Yankee Doodle" was the first American sailplane to appear in any European contest Laister said.

Starting Monday, September 26, the National Soaring Museum conducted a series of slide/lectures for Elderhostel at the Watson Homestead, Coopers Plains, NY. The program was divided into four segments, "The History of Soaring," "The Wright Brothers and the Beginnings of Soaring," "The Glider War 1940-1945" and a tour of the NSM facility.

Among the Elderhostel participants were, David and Barbara Comstock, of Millford, CT. David is an SSA'er and a long time, glider pilot who delighted the group during the Elderhostel's NSM tour with stories and pictures of his first home-made gliders back in the late 20's in Roundup, Montana. At our request, Mr. Comstock assembled recollections of his youthful flight experiences for an article that will appear in a later NSM.

"Galichina" the Ukranian National Folk Ensemble visited the NSM on September 28th. Museum Director, Shirley Sliwa, and Chemung County Executive, Robert Densberger, speaking through a translator and NSM Trustee, Walter Korchynsky, welcomed the ten member group to the National Soaring Museum and the Harris Hill soaring site.

The young Soviet musicians moved through the exhibits with lots of questions and smiles. The group recently won awards at the World Festival of Students and Young People in Moscow, and at the 34th Worldwide Festival of Folk Music in Huisse, France. The "Galichina" Folk Ensemble is on an American tour.

The National Soaring Museum's third annual "Kiteciment" kite-fly wobbled skyward, on a beautiful autumn Saturday, October 8th.

Unfortunately, for the first time in recent memory there was very little, if any wind atop Harris Hill (elev. 1,109 feet, above sea level.)

The natural exuberance and spontaneity of the contestants carried the day, however. With cider, apples and doughnuts the 22 entrants, 5 to 75 years-old, swapped building techniques, told of past kiting glories and generally had a good time.

There were Thai Serpents, Hawaiian Circles, Hawks, Indian Fighters, Bermudan Three Sticks, Eddy Bows, Boxes, Multicellulars, and some kites that defied descriptions, on display.

Every now and again a thermal would pop up and the kites would mass-launch into the lift for a four or five minute flight. It almost gave you the sensation of the ground dropping away with the beautiful shapes, colors, and patterns hovering, weightless in the air. With the thermal's passing, all the contestants furiously reeled in their wavering planforms.

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Binghamton/Elmira WBNG-TV anchorman, Greg Catlin, delivers a newscast from the NSM as part of that station's "Interesting Places" series.



Elderhosteler, SSA'er and Museum member, David Comstock, Milford, CT, relating some of his boyhood adventures with a homebuilt glider in the late 20's to the Elderhostel group visiting the NSM.

From the NSM Gift Loft

THE LIVING TREASURE HOUSE

Here is your special video tour of The National Soaring Museum narrated by actor, writer, director and sailplane pilot, Cliff Robertson. You will see the largest exhibit of contemporary and classic sailplanes in the world and rare NSM archive film clips of some of the soaring pioneers and their gliders. Learn about the NSM's beginnings, its programs and its goals. From paper gliders and kites to state-of-the-art competition sailplanes, you will experience the romance and adventure of silent flight with this 27 minute jewel. Order now; fill out the coupon and mail it, along with your check or money order, to NATIONAL SOARING MUSEUM, Harris Hill RD #3, Elmira, NY 14903

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(plus \$2.50 handling)



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READY FOR WINTER! PROGRESS ON THE NSM EXPANSION . . .



These photos of the NSM's 12,000 sq. ft. expansion were taken on Thanksgiving weekend. Above: looking northeast with the present NSM structure at left. Right: the storage area and the exhibit maintenance and workshop take shape.

(Continued from page 7)

Bill Connors, Horseheads, NY, an NSM kite Advisor, put on a spectacular demonstration of his 10 1/2 foot diameter multicellular box kite that won first prize in its category at a recent national American Kiteflyers Contest in Chicago, IL. It is made of 1,400 pieces of nylon, took 1,300 hours to build and required the help of four people working a little less than a half hour to assemble at the launch site. Five people helped move the delicate structure into the launching position. A tail of two tandem drogues helped maintain stability.

Built to fly in light air conditions, it made three eyefilling ascents before what little wind that was available gave out. Skyward, it looked like a massive airborne kaleidoscope. Connors who started the project in 1984 and finished it three years later said that the idea came from a New Zealand kite maker and represents the Seven Sisters Constellation.

In the 5-11 year old class Patrick LaPointe showed up with an innovative black and gray design constructed of garbage bags and light wood dowelling, complete with R.A.F. roundels on the wings. Arthur Jewett of Lawrenceville, PA took first place with his elegant two-stick diamond design.

Jewett specializes in creating top and bottom drawings of historic fighter planes on his kites. Look up and you see a colorful rendering of a Grumman F-2/F-1 biplane carrier fighter of the

thirties rippling across the sky. He has fashioned a whole squadron of such kites.

Lew VanDuzer, of Horseheads, NY, showed off his nimble Indian fighter kite, and five year-old Elizabeth Ann McGill wearing her fathers commando sweater that came down to her ankles valiantly flew her entry, even though when she got it in the air, her compressed sweater sleeves started working their way up the kitenline. Winners posed for a group picture and all agreed that they would return for next year's NSM "Kiteciment."

With all this activity, still the most exciting happening at the NSM is the Expansion. The contractor has his crews working under cover now and the enclosed spaces are beginning to assume a definition that reflects their function. At a recent Exhibit Committee meeting, planning for the 1989 Exhibit Focus includes use of the new restoration and storage areas.

Approaching the Museum from the brow of Harris Hill, the unfinished expansion shell gives visitors a feeling of depth and size not expected in such a rustic setting . . . Almost like finding a soaring Bloomingdale's in a National Park.

Next comes decks, siding, elevators, and plumbing. It's worth mentioning that so far during the construction, there have been no blackouts, freezouts, toilet or basin backups. Were it not for an occasional outside bellow of heavy equipment, and a boarded up wall, you wouldn't be aware of any attendant construction activity from inside the Museum.

Fortunately for staff, the construction people are very tolerant of in-house and visitor sidewalk supervisors. We will continue to update NSM readers on Expansion progress.

ON THE COVER:

Pioneer test pilot, sailplane pilot and builder, Paul Rudolph Opitz, Stratford, CT, delivering the 15th Annual Ralph S. Barnaby Lecture, October 29th, 1988 at The Holiday Inn, Hampton, VA. Fifty people attended the event, sponsored by the National Soaring Museum and hosted by the Tidewater Soaring Society, Hampton, VA.

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

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