

NSM

A Quarterly Journal
of the National Soaring Museum
Winter 1989-1990
Volume 12 Number 3





Robinson with Zanonia 1946 — John Robinson Photo

THE WORLD'S FIRST INTERNATIONAL DIAMOND "C" SOARING AWARD JOHN ROBINSON & ZANONIA

On July 1, 1950 John Robinson, Rosemead, CA became the first American to earn the world's highest soaring award, the Diamond "C".

On that day, Robinson, in his famous Zanonia, the ship that previously carried him to three National Championships and one world record, scratched, slithered, and zoomed his way from El Mirage, CA 221 miles over 7,000-foot mountain passes, dry lakes, and parched California deserts to his declared goal, Overton, Nevada.

The world's first "Diamond" was a long time coming. To be considered for that award by the F.A.I., the world's governing body of soaring, a pilot must complete a distance of 310.7 miles; an altitude gain of 16,405 feet; and a pre-determined goal flight of 186.42 miles.

There is a suspicion that the soaring community has become so jaded by recent motorless flight accomplishments that the 40 year old first "Diamond" may have lost some of its former luster.

The comparison between the lumbering sailplanes of the pre-computeronic Robinson era and today's super ships is almost polar. Sailplane aerodynamics and construction techniques totally eclipse those used on Zanonia, and pilot proficiency has advanced dramatically.

Robinson satisfied the first Diamond requirement in July, 1947, with a 325 mile distance record flight from Wichita Falls, TX to Barstow, TX.

In January of 1949, Robinson in his Zanonia soared to 33,500 feet above Bishop, CA to Muroc Air Force Base, CA for an "absolute" Altitude World Record. "Robinson and Zanonia," seem to be repeated all through the Soaring Society of America's record flights of that era. The two stand together

almost as a single thought, like Lord & Taylor and bread & butter... It wasn't always that way, though... Robinson and soaring go back to the early 30's in San Diego and to soaring over the beach-fronted cliffs of Torrey Pines, California, one of the oldest soaring sites in the country.

"We'd get a tow-car on the beach at low tide and wait for the afternoon sea-breeze, then launch the glider by auto-tow, and ridge soar along the adjoining cliffs," he said.

Sometimes, at low tide waiting for the afternoon sea-breeze to freshen so they could launch their gliders, Robinson said, they would jump on a cut-down surfboard with a handle on the towline and get towed through the surf. Then, they made short boards for each foot and were towed into the surf at about a 70 or 80 degree angle from the old Ford tow car.

"Of course that was before water skis were invented, but we didn't know that at the time," he said.

The problem with launching gliders from the beach at Torrey Pines was that pilots were completely at the mercy of the tides, according to Robinson. In 1937, he went to the city fathers of San Diego to see if a lease could be arranged for the only available field at the top of Torrey Pines and the city let the area glider enthusiasts use it for \$1.00 per year.

He invented a pulley tow device there, enabling the glider to be launched into the ridge wind at twice the speed of the towing Ford, which went only half the distance.

Robinson learned how to fly in a two-place primary built by Dave Robertson and Henry Severin. "Dave was the most experienced glider pilot of our group in San Diego at the time,"

(continued on page 3)

(continued from page 2)

Robinson said. Robinson then flew his own 1934 Robin #1 homebuilt sailplane. It was a stick and gusset fabric-covered sailplane built by Robinson and Barr, in partnership. This was superseded by the 1936 Robin #2, another open cockpit design built solely by Robinson.

Discussing his better-known sailplanes, he said that he earned his Silver "C" award in the Robin #3, a cantilever-winged (internally supported wing) ship that he built himself in 1937, with a fully enclosed cockpit canopy. This was followed, in 1938, by the innovative Robin #4, with a fabric covered steel-tube fuselage and with strut-braced 49 foot wings. The airfoil of the strut was set at the same angle of incidence as the wing, thereby contributing to the ship's lift. (The angle of incidence is the acute angle between the mean chord of the wing and the longitudinal axis of the glider.) He won his Gold "C" soaring award in this ship.

Robinson studied at San Diego State with emphasis on meteorology and all the physical sciences. "I tried to make daily applications of what I had learned to my flying," he said. He later became a skilled welder, "That's why when I made #3 and #4 of my own sailplanes I made the fuselage out of thin steel tubing for strength," he said.

The sitting position in the #3 and #4 was ahead of the wing. He designed large surfaces to get good control and could detach the back of the seat so that there was room enough to take the ground crew for a ride. "I could soar with an extra 100 to 150 pounds, and glide at 90 & 100 mph... and that was 1937... Same as with water bags today... No one else was doing that 'til 1960," he said, adding, "It helped me win a lot of contests."

To maintain the wingloading, Robinson deliberately carried additional weight in emergency equipment, "Flying over the California desert in those days you had to expect a landing 20 miles from nowhere and you had better be prepared to stay there for a little while; I never actually had to do that, however," he said.

Through the 30's and 40's, Robinson acquired a reputation for his skill in cloud flying, even venturing into building cumulonimbus thunderheads; before there were stringent rules against it. He said that he relied exclusively on his instruments, "Forget about what you are feeling... That's the secret," he said. "The only thing I worried about was hail; then I got the hail out of there!"

His affair with Zanoia began when the ship was known as the Ross-Stevens RS-1. It was built in 1937 by Harland Ross for Hollywood personality, Harvey Stephens. It was the first of the small-span (46 foot) high-performance sailplanes built in this country. The ship's lines were inspired by the German "Fafnir" sailplane built by the renowned pioneering designer, Dr. Alexander Lippisch. The ship is also credited with starting the shoulder-wing trend in American design.

The RS-1 was wrecked by Stephens in 1939 and sold to Woodie Brown, who, along with the help of builder Harland Ross, restored it.

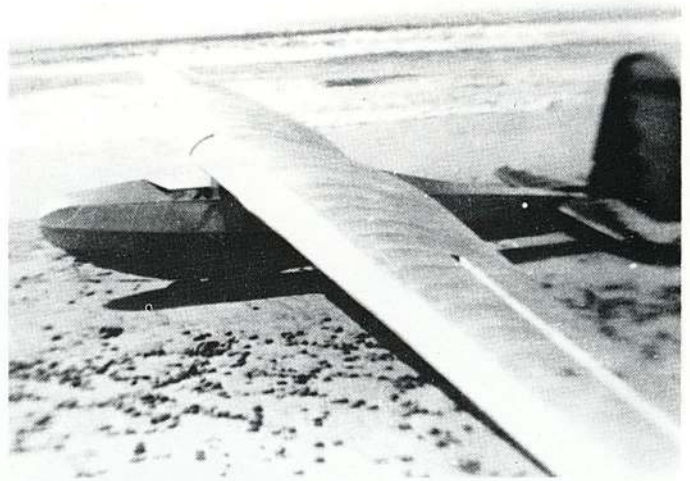
Robinson and Brown, good friends who had flown together for many years in the San Diego area, both flew the newly repaired RS-1. Personal family circumstances resulted in Brown's having to move to Hawaii.

"One night," Robinson recalled, "Woodie phoned me and asked if I wanted to buy the RS-1 because he couldn't take it out to the islands with him. He knew that I would go out and fly it to its peak performance." Robinson bought it; Harvey Stephens had named it Zanoia, after an Indo-Malayan seed that has superior gliding characteristics.

"Zanoia was 10 miles faster than other ships of the period," Robinson said, "It had a stalling speed of 50 to 52 mph." (A stall is the abrupt loss of lift at the angle of attack at which the flow of air separates significantly from the top of the wing, rather than being deflected downward.)

Zanoia's new owner said that there were noticeable air

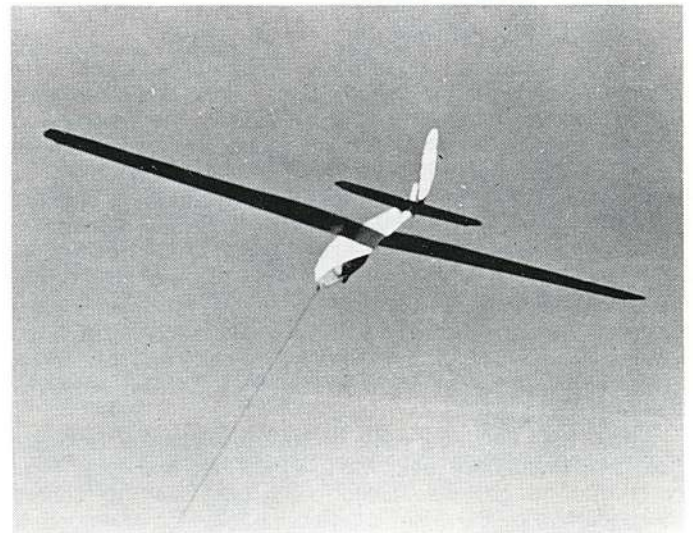
(continued on page 4)



Robinson's Robin #2 built in 1936 — on the beach at Torrey Pines. John Robinson Photo



Robinson's Robin #3 with full canopy, built 1937. Pictured at Clark Dry Lake, CA. John Robinson Photo



Robin #3, designed and built by Robinson, climbs on auto tow — 1938.



Robinson and his Robin #4 sailplane, showing its transparent nose, 1938. John Robinson Photo

(continued from page 3)

leaks in the spoilers and where the wings attach to the fuselage. He devised a process for masking and sealing these areas, thereby reducing the stalling speed to 38 mph.

With a wing loading of up to 5 pounds per sq. ft, Zanonía had a top speed of about 100 mph. Robinson and the late Dr. A.H. "Gus" Raspet figured a glide ratio of around 30 to 1 at 47 mph, up from the previous neighborhood of 27 to 1 at about 55 mph. (Glide ratio is the ratio of forward motion to downward motion and numerically is the same as the ratio of lift to drag. L/D) Robinson and Zanonía went on to win three successive national contests, 1940, 1941, and 1946, and John became the permanent holder of the Edward S. Evans Glider Trophy For American Championship Flights, given annually to the national gliding and soaring champion.

He set national sailplane distance records in 1940 with a 290-mile flight and in 1946 with a 325-mile flight.

Paul A. Schweizer, in his book, "Wings Like Eagles - The Story Of Soaring In the United States," describes some tense moments at the Elmira, 1940, 11th Nationals: "As the day wore on all but two pilots (Robinson in Zanonía and Robert Stanley and Ernest Schweizer in a Schweizer 2-8), had reported in.... As time rolled by it became more and more apparent that the two pilots were either lost or were establishing new records. As dusk was settling on Harris Hill, two phone calls were received in rapid succession. The first was from Stanley, who landed near Washington DC, establishing a new American 2-place sailplane distance record of 216 miles. The second call, a few minutes later, was from John Robinson, who landed his Zanonía at Mineral, VA, a distance of 290 miles, a new American single-place record."

In the 1941 Jan.-Feb. issue of Soaring Magazine, Robinson told of his break-neck return trip to Elmira from that flight. It was vital that he get his sealed barograph back to contest headquarters by the 3 pm deadline the following afternoon, to validate his flight. A farmer drove him from where Zanonía had landed in Mineral, VA to a railroad station 40 miles away, where he boarded a train for Washington, DC. Then, with no money,

only travelers checks, which in those days officials were reluctant to cash, he took a taxi to the Washington airport, and caught the first plane heading in the general direction of Elmira. It happened to be going to Buffalo. There, he was met by a friend who drove him back to Elmira. He arrived at contest headquarters at 2:50 pm — 10 minutes before the deadline!

In 1941, John started a glider school in Elmira, NY in conjunction with the Elmira Area Soaring Corporation (forerunner of the present Harris Hill Soaring Corporation.) That same summer, he started the Army Air Corps' first glider instruction school there. In October, when threatened by snowfall, he, along with other instructors, were transferred to Twentynine Palms, CA where, because of expansive dry lakes, the Army didn't have to build an airport.

The next year, the Elmira Area Soaring Corporation's second school went to Mobile, Alabama.

The first school was before the Pearl Harbor attack, and the courses at Elmira and Twentynine Palms were for power pilots making the transition to gliders. The two-place method was used for training in the Schweizer TG-2 and the Corcoran Cinema. In 1938, Robinson had developed a pellet-type variometer (an instrument that shows the rate of climb and descent) and had them installed in the training gliders at Twentynine Palms. The variometer helped the student take advantage of the strong desert thermals and spend more instruction time in the air.

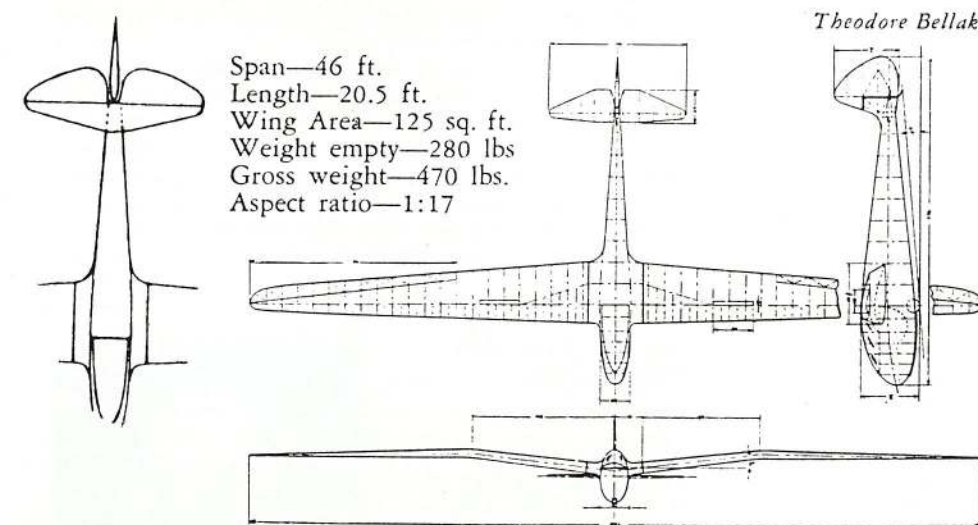
In 1949, John Robinson was the first to set a new world altitude record classification — absolute altitude above sea level. In his Zanonía, he reached 33,500 feet and in 1950, he was awarded the world's most prestigious soaring award, the Lilienthal Medal for that flight.

Robinson, along with Larry Edgar and Raymon Parker, were the pilots involved in the historic 1950-1952 Mountain Wave Project. It was formed to investigate the nature of the extremely high-standing waves over California's Owens Valley, and involved the Southern California Soaring Association, UCLA, The Air Force Cambridge Research Center and The Naval

(continued on page 5)



Zanonía, flown by Robinson at Torrey Pines, CA — LaJolla in background. A Warren Watson photo from J. Robinson



Span—46 ft.
Length—20.5 ft.
Wing Area—125 sq. ft.
Weight empty—280 lbs
Gross weight—470 lbs.
Aspect ratio—1:17

Left: An RS-1, 3-view showing the all-moving tailplane, from the Oct. 1937 SOARING magazine.

Far left: A later modification showing tailplane with hinged elevator mounted atop of the fuselage, forward of the fin.

(continued from page 4)

Ordinance Test Station. "Among other valuable meteorological information, the project proved that downdrafts as strong as 4,000 and 5,000 feet per minute existed near the lee side of some mountains, and this was at a time when aircraft were only required to clear such peaks at 2,000 feet," Robinson said.

John Robinson, along with William Hawley Bowlus, Richard C. duPont, Warren Eaton, Wolfgang Klemperer and Paul MacCready, Jr., were the first to be inducted into the United States Soaring Hall Of Fame established in 1954 at the Helms Foundation Hall Of Fame, Los Angeles.

The award is given annually for "those persons who achieve, in a noteworthy manner in soaring or who have made outstanding contributions to the sport of soaring as determined by the Soaring Society of America Directors." Since 1976 the SSA has held its Hall of Fame induction ceremonies at the National Soaring Museum.

After WW II his variometer business was wiped out by the advent of the more efficient electric variometer. He went to work with an instrument manufacturer, making, calibrating, and inspecting sensitive instrument components.

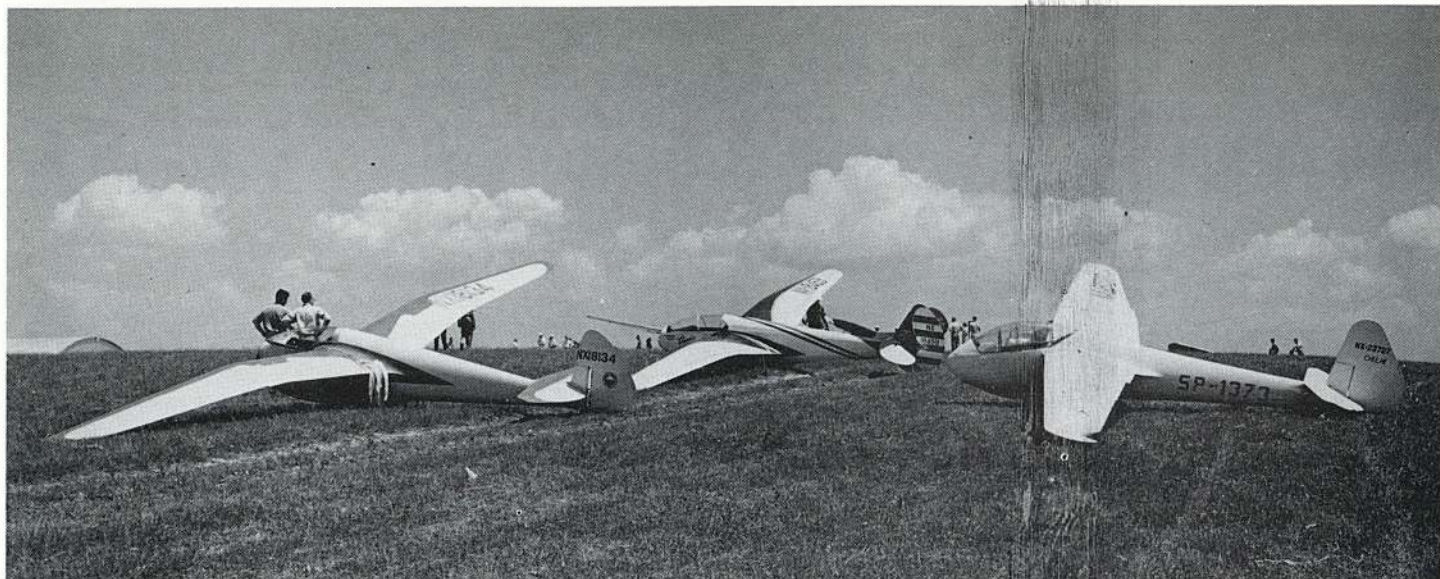
"Some were so small that you could put 500 of them in a thimble," he said. "We were working to tolerances of ten thousandths of an inch."

Robinson has written extensively on soaring and has had several stories in SOARING, the journal of the Soaring Society of America.

He wrote "Early Days" in the June 1987 SOARING and discussed the differences in soaring competition then and now. The following is excerpted from that story:

"The modern triangle races are certainly an improvement for the retrieving and ground crew problems, especially if the task is completed. Today,

(continued on page 6)



A Fred T. Loomis photo showing left: Zanonias, center: the Laister-Kauffmann, Yankee Doodle and right: an Orlik, at the 1941 Nationals, Harris Hill, Elmira, NY.

(continued from page 5)

under most circumstances, the retrieve usually isn't so far from home base that the pilots lose a whole night's sleep, which was common in the very early contest flying, with landings made very far away from the start point.

One of the main differences between early and modern soaring competition was a mental attitude involving repair or replacement of a sailplane. Insurance did not exist in the early days. Since I had designed and built my own sailplanes, I alone would have to fix a bent or broken ship. Winning a contest was never worth the several month's work that might be incurred by outlanding the glider in unlandable terrain. It never occurred to me to take such chances. Personal safety was not a factor. When the glider was landed undamaged, the pilot was automatically safe.

A few pilots in modern day contests have been known to start their final glide without enough altitude, too late in the day to expect another thermal.

The rationale for this behavior is, "I might get another thermal, and I could win this contest if I do. If not, Fred Jiran has until next spring to repair the sailplane. Some make it, some don't. I don't think I could compete with pilots possessing this mental attitude."

This attitude has a direct relationship to money and insurance. The fact that some of the modern pilots can afford a sailplane that costs \$20,000 or \$30,000 (1987) speaks for itself! And then, the fact that insurance sometimes covers outlanding damage, is a big change from soaring in the early days!"

Robinson, now retired, flies a Fournier RF4D motorglider. "I get more soaring in this, for the time spent at the airport, than in a regular sailplane," he said.

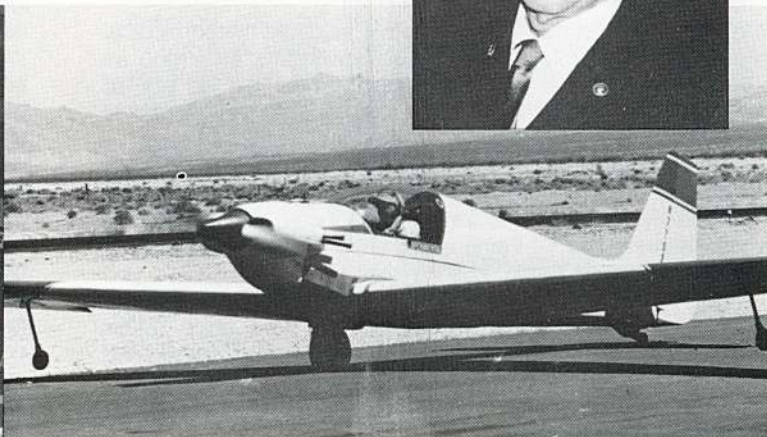
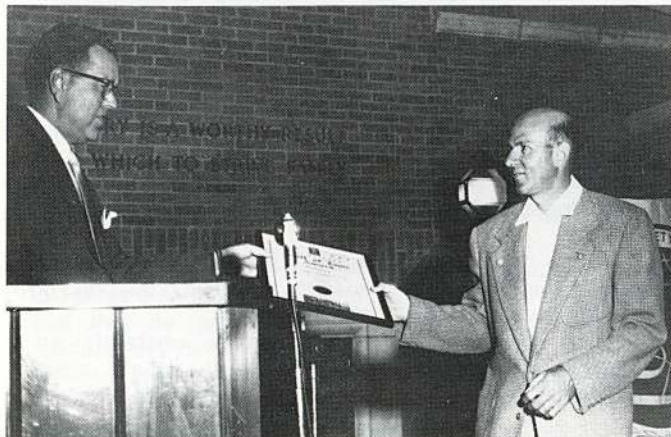
At a few contests he's used it as a "thermal sniffer" to determine when lift is good enough to start towing contestants. Robinson has flown a number of glass sailplanes and has a lot of time in the Schweizer 1-34, 2-32, and the Blanik.

"I also fly airplanes, mostly as a tow pilot, but soaring is the most fun. Smooth air doesn't turn me on at all," he said.

Below: E. J. Reeves, then SSA Treasurer, presenting the Hall of Fame Award to Robinson, along with five others, on the occasion of the establishment of U.S. Soaring's Hall of Fame at the Helms Foundation, Los Angeles, CA in August 1954. Since 1976, the SSA has held its induction ceremonies at the NSM.

Robinson. 27 June 1982 — John Robinson Photo

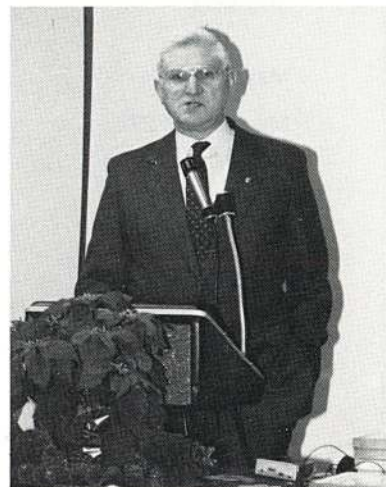
Below: Robinson, in his RF4D Fournier motorglider on take-off roll at Calif. City — April 1989. Photo by Kay Ondek



SEVEN HONORED AT NATIONAL SOARING MUSEUM ANNUAL COMMUNITY SOARING COMMITTEE LUNCHEON



Left: Community Soaring Committee Chairman, Paul A. Schweizer, left, presented engraved silver bowls to Lee L. Robbins, Horseheads, center, and Boyd McDowell, II, Elmira, NY.



Right: John B. Hintz, NSM Treasurer and Trustee, summarized the Museum activities in 1989.

Seven area residents were honored for their commitment and volunteer work during 1989 by the National Soaring Museum's Community Soaring Committee at its annual luncheon December 8, 1989.

NSM Trustee and Community Soaring Committee Chairman, Paul A. Schweizer, presented engraved silver bowls to Lee L. Robbins, Horseheads, NY, NSM past president & trustee and to Boyd McDowell II, a former NSM trustee.

The chairman said that he met Robbins around 1949, when the Schweizer Aircraft Corporation shared a surplus military Navion with several other area industries and Robbins was the pilot.

Schweizer referred to Robbins as, "The complete aviator; he's flown everything from super jets to his "Breezy" homebuilt, including sailplanes."

He said that the recipient has been of tremendous help through the years, as an NSM trustee, a vice president, president, and advisor. "Lee has helped us in so many different ways in coordinating and expediting NSM activities," Schweizer said.

In Boyd McDowell's presentation, Schweizer recalled that Boyd's father, the late Robert McDowell, helped launch the first glider in the Elmira area in 1930 when Jack O'Meara came here to try soaring conditions off South Mountain... It was the senior McDowell who was responsible for bringing the Schweizer brothers to Elmira and assisting them in setting up their corporation in 1939.

The chairman said, in making the presentation, that Boyd became interested in gliding and has been a great supporter of the NSM. In 1977 and 1978 he assisted in raising funds for the original NSM building. He was a board member and has given continuing support and encouragement to the development and expansion of the NSM.

Framed certificates of Appreciation for outstanding volunteer work on behalf of the Museum were awarded to: Irene Hickman, Horseheads; Terry Wheat, Elmira; Arthur Jewett, Lawrenceville, PA; William D. Connors and Milton Adams, both of Horseheads.

The Museum hosted the 120 attendees in the Edward A. Mooers Community Room.

John B. Hintz, Museum treasurer and trustee at large, summarized the Museum activities in 1989, the highlight of which was the dedication last September of the 12,000 square foot expansion. Expansion construction started in July of 1988.

He noted that attendance was up 25% from last year and that the Museum had visitors from all 50 states and 30 foreign lands in 1989.

Paul A. Schweizer, NSM trustee, honorary chairman of the expansion campaign and regional director of the Soaring Society of America addressed the audience on the state of the fund drive. 13% was raised locally and 87% raised nationally. "So you see that we really are a national museum", he said.

He thanked New York Senator John R. Kuhl and Assemblyman George H. Winner for their efforts in obtaining a \$100,000 grant from the State of New York.

He asked attendees to take a close look at the Recognition Wall plaques that show the categories and the amounts given.

Schweizer praised Expansion Steering Committee Chairman Bernald S. Smith, Fremont, CA, and NSM president John C. Lincoln II, Paradise Valley, AZ, along with the other NSM trustees, who had the major job in raising the funds. He said, "They raised over a quarter of a million dollars among themselves. That shows you the kind of confidence we have in what we are doing."

Schweizer thanked the community, the people, agencies, and the foundations that have given the Museum such great support. In closing he said, "When you walk upstairs through the Gallery you will notice that we have some of those bricks that are still blank; so there are still some available. If any of you are interested, just let us know."

Director, Shirley Sliwa, outlined Museum plans for 1990, including the completion of the expansion fund drive, the Sky Ghost Trust Fund, the Community Soaring Committee activities to develop plans for the 60th anniversary of the first national contest and the 1990 Exhibit Focus.

The Community Soaring Committee is composed of area business, industry, professional & arts leaders, representatives of the National Soaring Museum and members of the Harris Hill Soaring Corporation. The Committee holds a luncheon annually honoring those who have rendered noteworthy services to the Museum in its various projects throughout the year.

The National Soaring Museum is an affiliate of the Soaring Society of America and is the official repository for its artifacts and memorabilia. The Museum is open seven days a week 10 to 5, year round.

ON THE COVER

A Fred Loomis photo of Richard C. duPont in his MINIMO A at the 8th Annual National Soaring Contest, Elmira, NY 1937. duPont won the altitude award on July 2nd with a flight to 5,890 feet. This sailplane is now on display in the main exhibit hall of the NSM.

1990 CALENDAR OF EVENTS

Date	Event	Location
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 Vintage Sailplane Association Annual Meeting	NSM/Harris Hill
June 4-10	National Soaring Week	NSM
June 20	NASA-SARSAT Van Exhibit	NSM
July-August	Summer Cohesion Program - AEROGAMI	NSM/Area Schools and Parks
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.