



NSM

A Quarterly Journal
The National Soaring Museum
Summer-Fall 1993
Volume 15 Number 2

"EOGASE"

THE NATIONAL SOARING MUSEUM'S
Evolution of Gliders and Sailplanes Exhibit



Lyle Maxey

Irv Prue

Rocky Peters

Peter Mann

Felix Chardon

The Symposium on The Evolution of Gliders and Sailplanes Exhibit

EOGASE, the acronym for the National Soaring Museum's current exhibit of model sailplanes, doesn't really reflect the project's vast survey of motorless flight. The project, ranging from Lilienthal's spidery-looking 1896 glider to the most recent mega-tech soaring jewel, includes 122 historic sailplanes and gliders by 63 different model builders. All are crafted to a 1:24 scale and in some cases were fashioned by the builders of the original ships. Just the research involved to insure accuracy was a tribute to the constructors' perseverance and patience.

Paul A. Schweizer, NSM Exhibit Committee chairman, conceptualized and administered EOGASE on a global scale, with models coming from: Canada, Germany, Czechoslovakia (before partition), Sweden, Poland, as well as from 15 U.S. states. (See *Schweizer's story, "The History of EOGASE," in this NSM*).

National Soaring Museum Director James W. Swinnich turned the Symposium over to Chairman Schweizer, who called on modelers in the order of the number that they had built. Czechoslovakia's Ivan Hodan built eight and was sponsored by the Schempp-Hirth organization in Germany. Next was Felix A. Chardon, New Hope, PA, who built five. Chardon commented, "Paul twisted my arm. Every time I'd make one he would call me and have another one for me to build." While researching the models, Chardon was in contact with the Silver Hill Restoration Facility of the National Air and Space Museum where they had what was said to be a wrecked Waco Primary, a glider the modeler flew ("Or it flew me," he quipped) as a young man. He visited the Maryland complex to investigate and said, "They had a real basket case... Looked like it was ready for firewood... It turned out to be a Mead Primary. They didn't even know what they had, but they were very helpful in supplying original drawings of the Waco."

Rocky Peters, a Schweizer Aircraft employee, another builder of five Schweizer models, said, "It's interesting to pull out the original blueprints at the plant, a ready resource and to take yourself back in history. In one of the drawings that I was transposing for a model, I noticed that Ernie Schweizer (one of the Schweizer Aircraft co-founders) changed the vertical fin, downsizing it considerably. I wondered what was going through his mind at that time: performance, safety, production problem, what?"

Per Danewid, Malmo, Sweden, was introduced to the attendees. It seems that the Exhibit Committee was having some difficulty in getting the Schleicher people to sponsor nine models which were qualified for inclusion in this exhibit. They were looking around for support. Goran Ax, Swedish former world champion and flying mate of Danewid, is a good friend of Gerhard Waibel, designer of

the Schleicher Sailplanes, Popenhausen, Germany. Through Waibel, the model sponsorship was expedited. A 2,000-hour sailplane pilot as well as a skilled modeler, Danewid has built between 400 and 500 models that are on exhibit all over the world and built four of the nine Schleichers for EOGASE.

Paul Schweizer referred to Peter Mann, Guelph, Ontario, Canada, as the "ancient model builder" because all his EOGASE models are of ships built before 1911. He did the Montgomery, two Wright Brothers gliders and Orville's 1911 glider. Mann said that attempts to find drawings on these early birds were "rather hair raising." He researched the Montgomery extensively through *WWI Aero* magazine drawings and the San Diego Air and Space Museum, but said, "There's no guarantee that it's anything like the one that Montgomery flew. The model is from Kelly drawings that appeared in *WWI Aero* magazine and the San Diego Air and Space Museum. Mann worked from pictures of the Wright machines.

"The wings were difficult because they were so thin," Mann said. He took sheet basswood, molded over a form and rigged it so that it would retain any anhedral that was there. "The worst thing was the rigging," he said. He used polyester thread "all stuck in there with hot stuff... My only concern is how long these things last..."

Next came the unusual combination of the designer and builder of the Prue line of sailplanes, Irving O. Prue, Pear Blossom, CA, who built models of four of his original ships. Prue said that he had a very good friend in the model business who said the models couldn't be built for less than \$15,000 apiece! Prue scaled down his 1:12 scale drawing to 1:24 with dividers and went to work. In 30 days he completed four models and said that the most difficult part was preserving and painting them.

Calvin Weiss, Cleveland, OH, remembers as a kid in the 1930's saving his money to see that famous Cleveland Air Races and seeing celebrated German aviatrix Hanna Reitsch performing coordinated aerobatics. He said then that if he ever flew, it would be in sailplanes. Instead, he flew R/C models; lots of them. Weiss built the model of John Robinson's record-breaking "Zanonia," along with three other miniatures. He demonstrated the flight characteristics of the Zanonia seed with a small replica, skimming it across the Edward A. Mooers Meeting Room. He said, "This is the way the Indonesian tree propagates itself; it has tremendous soaring capabilities."

Chairman Schweizer by way of introducing Schweizer Aircraft

Continued on Page 3



"Gus" Briegleb

Leslie Schweizer

Jeff Byard

Dick Schreder

Jim Marske

Continued from Page 2

Corporation employee Steve McKeown, Campbell, NY, said, with a laugh, "I guess I twisted his arm a little bit, too." McKeown said that he'd built model airplanes ever since he could remember, "plastic ones - that's my generation. My father furnished the impetus. He built solids and stick & tissue flyers. They were impressive, double O-S's, every time." (out of sight) McKeown allowed that he is not a carver or a painter, so the Schweizer 1-1 Primary was the way to go.

Jeff Byard, Atascadero, CA, said that he didn't get into modeling until he started flying Gus Briegleb's TG-3A's at El Mirage, CA, in 1967. He sent away for a Schweizer TG-3A model that was advertised as having detailed instructions and die cut parts. When it arrived the instructions said to cut away everything that doesn't look like a TG-3A. Byard laughed, "I did, and it came out looking pretty much like a Laister-Kauffman LK-10." Later he obtained some wood from the Bowlus shop and built a Baby Bowlus; then he did a TG-2. He nodded to Paul Schweizer saying, "Thanks Paul, it was a lot of fun."

Don Hobel, North Tonawanda, NY, builder of the Pratt-Read miniature, has been modeling since childhood, using carved balsa, stick & tissue and some radio/control. He is currently a member of the Niagara Soaring Club, the group that has Paul Bikle's Schweizer 1-23E. Bikle set two world's altitude records in 1961 in that ship; absolute altitude 46,267 feet and 42,300 feet gain. Hobel said that the Pratt-Read LNE-1 was an easy choice "seeing as how the club had one in storage and having one to look at made it very easy."

Jeff Lewis, Horseheads, NY, another Schweizer employee, did the Schweizer 2-33. "I put the registration number N 2524 H on it," he said. "That ship means a lot to me. It's the 2-33 that I soloed in on my 14th birthday."

Lyle Maxey, Dana Point, CA, veteran sailplane designer/builder along with Irv Prue and Frank Kerns, built the innovative, Jenny Mae and also the EOGASE model. "Irv furnished the straight-grained basswood. It's hard to find the grain, it's so fine. The entire job was done with sandpaper," Maxey said. He started modeling in 1927, when he received an R.O.G. kit (rise off ground) for Christmas. "Lindbergh's flight torqued me off on aviation, and I've been that way ever since," he said. The basic configuration of the Jenny Mae was a modified Prue 2-15 fuselage. He said that "Jenny Mae was a dream to fly... if you didn't mind maintaining a 60 mph air speed at all times."

Fernando J. Rueda, Houston, TX, builder of the Schweizer 1-19 said that it all started back in 1937, coming home from school. In an abandoned hotel some people were building a Ziegling "35." "I fell in love with it," he said. He was too young to fly but he became infected with model building, "a sickness you never recover from," he said. Rueda came across a copy of a vintage

sailplane book and there it was: the Ziegling "35." "So I built three of them," he said, "one for the donkey (me), one for a friend who flew with me 100 years ago, and one for the National Soaring Museum."

William "Gus" Briegleb, Adelanto, CA, said that he had designed or worked on some 21 ships, "everything from engineering, flight testing, bailing out of one and surviving up to the final great BG-21, 'The Lifting Body'." The Lifting Body was the fore-runner of the space shuttle and had no wings. According to Briegleb, it was the lowest performing glider in the world, with a glide ratio of 3 to 1. Paul Bikle, a NASA official, thought that he could do something that NASA had never done, build a flying machine, the BG-21 Lifting Body, without going to Congress for an appropriation. "Turned out to be the wrong thing to do," Briegleb lamented, "although the 'Body' flew exactly to specifications and several of the early astronauts including Gus Grissom successfully flew it, NASA never paid me the \$10,000 it cost to build... No wings, boy, it was a flying bullet and took real guts to fly it."

Briegleb said that he had about 350 glider kits around the world, from the BG-6 to the BG-12-16.

Leslie Schweizer, Cayuta, NY, Schweizer Aircraft Corporation V.P./Engineering, said that growing up as a Schweizer has always been a very interesting challenge. He spent about 15 years working with his father, Ernest, doing design work. "Very few people have that rewarding an opportunity in life. I was enthralled with flying; I thought flying was everything," he said. After college graduation the senior Schweizer assigned Les and the late Bernie Carris (NSM Spring 1987, Vol. 9 No. 4) to do flight tests on a series of gliders. He said, "After two months of this we decided that we had enough data, so I went into engineering to write the report and that's where I've been ever since." He said that today's problem at the company is the inability to stay in the sailplane manufacturing business, their first love. Most of S.A.C.'s focus is building parts for Boeing 747's, 57's and 67's. The real expertise has shifted to helicopters, with some of the sailplane technology switching to special purpose airplanes. Les added, "We remember our sailplane heritage. I've acquired a number of wrecked sailplanes on my farm and am in the process of rebuilding them because my kids are now flying gliders and trying to get through that cycle, too."

Sailplane designer/builder Richard "Dick" Schreder, Bryan, OH, said his interest in gliders started in 1919 when the **Detroit News** carried a paper glider cut-out which the then four-year-old folded and flew. "That's when I decided I wanted to get into flight and it's determined my whole life. Everything I have in my resume is connected to soaring and flying," he said.

Schreder told several amusing stories that reflected the era's flamboyance. It was during the great depression; Schreder was

Continued on Page 4



Chuck Bowlus, Mrs. Hawley (Ruth) Bowlus, and Jack Bowlus describe a Bowlus model.



George Applebay



Don Hobel



Fernando Rueda

world's reigning expert on the Herring Chanute," he laughed.

The great American pioneer gliderman William Hawley Bowlus' youngest son Jack C. Bowlus, Hollister, CA, was asked to build the Bowlus Senior Albatross and the Bowlus Super (Albatross). Jack C. had in hand a model of the SP-1, the famous Bowlus "paper wing". He said, "I built the models from what I know and the plans that I have on file."

"All the (Bowlus) ships on display and the SP-1 are made from woods that I had from my father for many years," Jack said, adding, "This one (SP-1) is out of Sugar Pine dating from about 1930." The other models are of mahogany and selected woods that William Hawley Bowlus used for patterns. (*The 1985 NSM Exhibit Focus was "William Hawley Bowlus...A Man of Many Facets," see Quarterly, Spring 1985, Vol. 7 No. 4*)

James (Jim) Marske, Michigan City, IN, grew up not far from where Octave Chanute tested his gliding inventions in the mid-1890's. "We are working on our new sailplane project in Marion, OH," Marske said, "It's a highly optimized, complex, standard class sailplane and is designed to be the highest-performance standard class ship in the world." Marske said that it is a new concept in aerodynamics and carries his flying wing principles in it. Coworker John Rohz has done a lot of computer design work over the last several years and has been working a full year on this project. Marske said that they will have a ship "that will outclimb most any ship out there, fly fully equipped at a 5 1/2 pound wing loading, or can be water ballasted up to 9. We're very excited about this new design and are very anxious to fight over who's first. It's going to be a big red letter day in our lives," Marske said.

Continued from Page 3

14 and riding his bicycle to a Toledo, OH, grass field airport. The operator was throwing bags and things into the front cockpit of a Beech biplane and the young cyclist asked him where he was going. "Well," the ship's owner said, "I just got word that the sheriff is on his way out here to get me because I haven't been able to pay my bills... I don't know where I'm goin' but I'm goin'," he said. The keen-eyed boy asked the absconder what he was going to do with the primary glider hanging at the top of the hangar. "You want to buy it? ...How much money ya got, kid?" the harried pilot asked. "\$8.20," came the barely audible answer. The fleeing debtor barked, "the glider is yours, kid; give me the money."

The glider turned out to be a Detroit Gull, a model of which is in the EOGASE exhibit. Schreder said that he learned to fly in that Detroit Gull at the end of a long wire with his mother towing in the family car. One neighbor lady asked his mother if she didn't know how dangerous it was. Mrs. Schreder's spontaneous response was, "Well, if he gets killed, I want to be there!"

James Moynihan, Williamsville, NY, spent a year of research when he found that there were no drawings or pictures of the 1896 Chanute-Herring, the glider he would be modeling for EOGASE. "I used the Smithsonian NASM, the San Diego Air and Space Museum, **W W I Aero** and a number of private sources; I might be the

Hall of Fame Weekend Symposium Technical Session

This meeting was moderated by Bruce Carmichael, Capistrano Beach, CA, an aeronautical engineer, who is very active in the Sailplane Homebuilders Association and has led several of their design competitions.

The thrust of this session, Carmichael explained, was to explore ideas on which design features, materials and building processes could be combined to somehow produce a recreational sailplane at a reasonable price. It need not necessarily be of highest performance, but it must be producible at greatly reduced cost comparable to current sailplane prices.

The following are excerpted comments by some of America's leading sailplane aerodynamicists, builders and designers.

The first speaker was George Applebay, Moriarity, NM, a long-time designer and builder who said that factories building sailplanes will go out of business unless they design less expensive ships. "I found that out the hard way. I built the 'Zuni' ...20 of them...a very complex glider," he said. "It took 2,500 man-hours to build some



Len Niemi illustrates a technical point at the symposium.

of the first ones. We got it down to 1,400; if we were really lucky

Continued on Page 11

The History of EOGASE

by
Paul A. Schweizer



Photos by Al McCarty & NSM Staff

The idea of an exhibit to show the evolution of gliders and sailplanes through the use of scale models had been talked about at the NSM for a number of years. It was given a good boost when the NSM held its Barnaby Lecture and Board of Trustee meeting in Hampton, VA. A side trip to the nearby NASA Visitors Center brought their Evolution of Aircraft model exhibit to the attention of the Board Members, the Executive Director and the Exhibit Committee. It looked like it would be an interesting exhibit and something the Exhibit Committee could do, so further study of such a project was carried out.

It was decided that this exhibit should be called: The Evolution of Gliders and Sailplane Exhibit, and soon the acronym of EOGASE was being used to describe this project. It would include the most significant American and foreign gliders and sailplanes that had flown in the U.S. to show how sailplane design had evolved over more than 100 years.

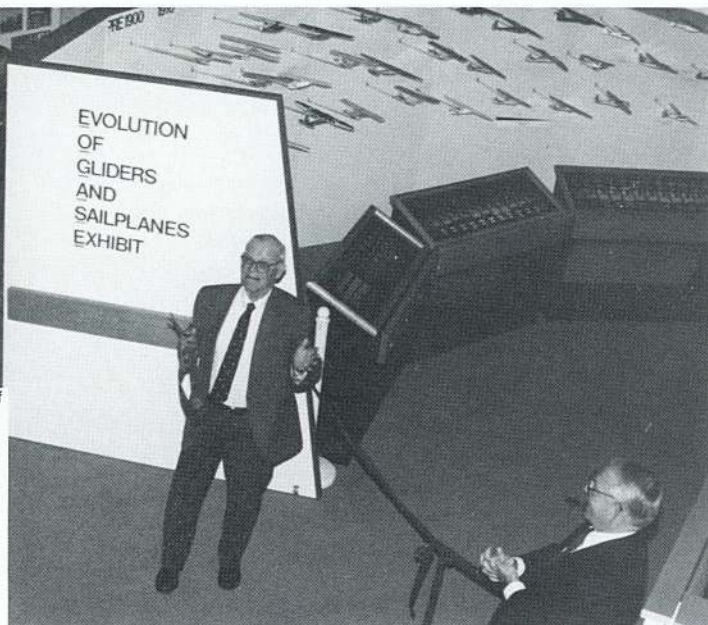
The first step was to make a list of all gliders and sailplanes so that there would be a complete list from which the most significant ones could be chosen. The NSM also wanted such a list for its Archives that could be kept up to date.

It took considerable time for the NSM Staff and the Exhibit Committee to come up with such a complete list. The first draft was circulated to a number of soaring historians around the U.S. to see if there were any errors or omissions. After getting their reports, the final lists were agreed upon and they included 256 U.S. and 163 foreign gliders and sailplanes that had flown in the U.S.

It was decided that a scale of 1:24 ($1/2"=1'$) would be used for the U.S. models and a 1:25 scale for the foreign sailplanes in order to make it easier to work in the metric system. Some preliminary design work was done on the exhibit structure and on the concept of mounting the glider from a circular wall. From this, it was determined that the exhibit could handle around 120 models. Since the ratio of U.S. to Foreign models was about 2 to 1, it was decided to have 80 U.S. and 40 foreign gliders & sailplanes in EOGASE.

The problem now was to pick the most significant U.S. and Foreign designs for the exhibit. This was done by a committee of 15 from different parts of the U.S., who were very familiar with sailplanes through the years. Their first effort was to put the gliders on the list into three classes: those that they felt should be in the exhibit, those that they felt should not be considered, and in the third group, those that they felt were in between.

This was the start of a series of selection processes by the Committee that eventually ended up with 80 U.S. and 40 foreign gliders and sailplanes for EOGASE. During the process, a review was made of the highest rated unchosen ones, those that just missed the "cut," in order to see if there were any that should be reconsidered. Although the aim in this overall procedure was to pick the most significant ones, it seemed that in some cases the choice was based more upon their popularity rather than on



Paul A. Schweizer dedicates the EOGASE exhibit with NSM President George Edwards.

any significant characteristic of the design. There was general agreement, however, that the most popular sailplanes also played a part in the evolutionary process and so they were a legitimate part of EOGASE.

Once the list was chosen, the next step was to set the requirements for the models and then develop a way of getting the 120 models. In order to interest model builders in contributing models, it was felt that the models had to be kept simple. The models were requested to be an accurate replica of the design, but they could be made from solid wood. They did not have to have any moving surfaces or external controls such as: cables, horns or pushrods, and a plastic canopy with cockpit installations was not required. It was requested that the model be painted like the prototype if that information was available.

Since there was no budget for the models, we hoped that they might be contributed. We first approached the designers and builders who were still living, about contributing models. Then the family and/or friends of designers who had passed on were contacted to see if they wanted to remember the designer by sponsoring a model for EOGASE. In almost all cases they complied and more than half of the models were received from these sources.

To get the balance of the models, we gave this project publicity in the NSM publications, the AMA Journal and at the Museum, and gradually developed a group of dedicated model builders. In some cases we had soaring enthusiasts who were not model builders who wanted to give a particular model to the NSM for EOGASE. We created the Model Sponsor category and they were put in touch with model builders with whom many worked out arrangements for supplying models for EOGASE. There were some disappointments when some could not deliver. In this case we depended upon some of our more industrious (and generous) builders to build another one.

Overall, there was a total of 59 model builders, including two teams. Twenty seven made one model each, twelve made two each, nine made three each, four made four each, four made five each, and one made eight. Included were a few professional model builders who were reimbursed by the manufacturer or one of the sponsors. All the others were amateurs. The models came from 5 foreign countries: Germany, Czechoslovakia, Poland, Sweden and Canada and from 15 states.

Continued on Page 9

PRE 1900

1910

1920

1930

LEGEND
The collection of 100 models of the most significant and most numerous gliders ever flown in the U.S.A. shown in this display is a tribute to the glider. This is the largest collection of gliders ever shown in one place. The gliders are arranged in order of their year of construction. The gliders are arranged in order of their year of construction. The gliders are arranged in order of their year of construction.

NO. MODEL

1. Montgomery #1 1883
- 1b. Lilienthal 1894 (GER)
2. Chanute-Herring 1890
3. Wright Glider #1 1900
4. Wright Glider #3 1902
5. Wright Glider #5 1911
6. Allen Koppen MIT 1922
7. Darmstadt-Chanute 1928
8. Gross Akron Condor 1928
9. Lippisch Pruefling 1925 (GER)
10. Baker McMillen Cadet 1929
11. Franklin Eaglet 1930
12. Detroit Gull 1930
13. Cooke Nighthawk 1930
14. Schweizer SGP 1-1 1930
15. Bowlus "Paperwing" 1930
16. Franklin PS-2 1930
17. Waco Primary 1930
18. Mead Rhone Ranger 1930
19. Gross Sky-Ghost 1931

BUILDER

- Peter M. Mann
Michael Ziomko
J. Moynihan
Peter M. Mann
Peter M. Mann
Peter M. Mann
T. Velazquez
Joseph S. Denn
Frank Gross
Joseph S. Denn
Alan Vopal
Joe Feather & Jack Wyman
Pat O'Donnell
John Ludowitz
Steven P. McKeown
Howard E. Burr
Joe Feather & Jack Wyman
Felix A. Chardon
Felix A. Chardon
Alan Vopal

NO. MODEL

20. Grunau Baby IIB 1932 (GER)
21. Rhoenbussard 1933 (GER)
22. Bowlus-Albatross 1933
23. Goppingen-Wolf 1935 (GER)
24. Goppingen-Minimosa 1935 (GER)
25. Buxton-Transporter 1935
26. Schultz ABC 1936
27. Schweizer SGU 1-6 1937
28. Ross RS-1 Zanolina 1937
29. Schweizer SGS 2-8 1938
30. Stanley Nomad 1938
31. Corcoran Cinema I 1938
32. Lawrence Tech Yankee Doodle 1938
33. Briegleb BG-6 1939
34. Neugent-Culver Screaming Wiener 1939
35. Bowlus Baby Albatross 1939
36. Bowlus Super Albatross 1939
37. Slingsby Kirby Kite 1939 (BRIT)
38. Jacobs DFS Olympia 1939 (GER)
39. Briegleb BG-7 1940

BUILDER

- Paul B. Gibson
Felix A. Chardon
Jack C. Bowlus
B. Miletic
B. Miletic
Gregory V. Vasgerdsian
Jack Laister
Steven P. McKeown
Cal Weiss
Jeff Byard
Felix A. Chardon
Robert M. Quas, Jr.
"Rainy" Lorraine Bell
Tom Copp
Irv Culver
LeRoy Blum
Jack C. Bowlus
David Robelen
Lawrence V. Williams
Tom Copp

NO. MODEL

40. Corcoran Cinema II 1940
41. Orlik II 1939 (POL)
42. Pratt Read RR-61 LNE-1 1941
43. Schweizer SGS 2-12 Military TG-3A 1942
44. Laister LK-10A Military TG-4A 1942
45. Briegleb BG-8 1942
46. Horten IV 1941 (GER)
47. Schweizer 1-19 1944
48. Schweizer SGU 2-22E 1945
49. Prue 160 1945
50. Slingsby Kirby Gull 1946 (BRIT)
51. Schweizer SGS 1-21 1947
52. Jacobs DFS Weihe 1947 (GER)
53. Parker Tiny Mite 1948
54. Schweizer SGS 1-23 H-15 1948
55. Ross RJ5 1950
56. Prue 215 1950
57. Schweizer SGS 1-26 1952
58. Schweizer SGS 2-25 1954
59. MKP Jenny Mae 1954
60. Blackstrom Flying Plank 1954

BUILDER

- Robert M. Quas, Jr.
Bogumil Beres
Donald G. Hobel
W. Stuart & Peter Schweizer
Jack Laister
Tom Copp
Ivan Hodan
Fernando J. Rueda
Rocky Peters
Irving O. Prue
Joseph S. Denn
Rocky Peters
Jay S. Hanna
Al Backstrom
Leonard W. Burz
Richard H. Johnson
Irving O. Prue
Rocky Peters
Rocky Peters
Lyle A. Maxey
Al Backstrom

NO. MODEL

61. Trager-Bierens T-3 1954
62. Briegleb BG-12 1956
63. Ross R-6 1956
64. Hall Cherokee II 1956
65. Blanik 1956 (CZECH)
66. LO-150 1957 (GER)
67. Schreder HP-8 1958
68. Niemi SISU IA 1958
69. Schleicher KA-6 1955 (GER)
70. Slingsby Skylark III 1959 (BRIT)
71. Prue Two 1959
72. Schleicher K8b 1957 (GER)
73. Johnson Adastral 1960
74. SZD 24C Foka 1960 (POL)
75. Schreder HP-10 1961
76. Schreder HP-11 1962
77. Prue Super Standard 1962
78. Parker "T" Bird 1962
79. Briegleb 12/16 1963

BUILDER

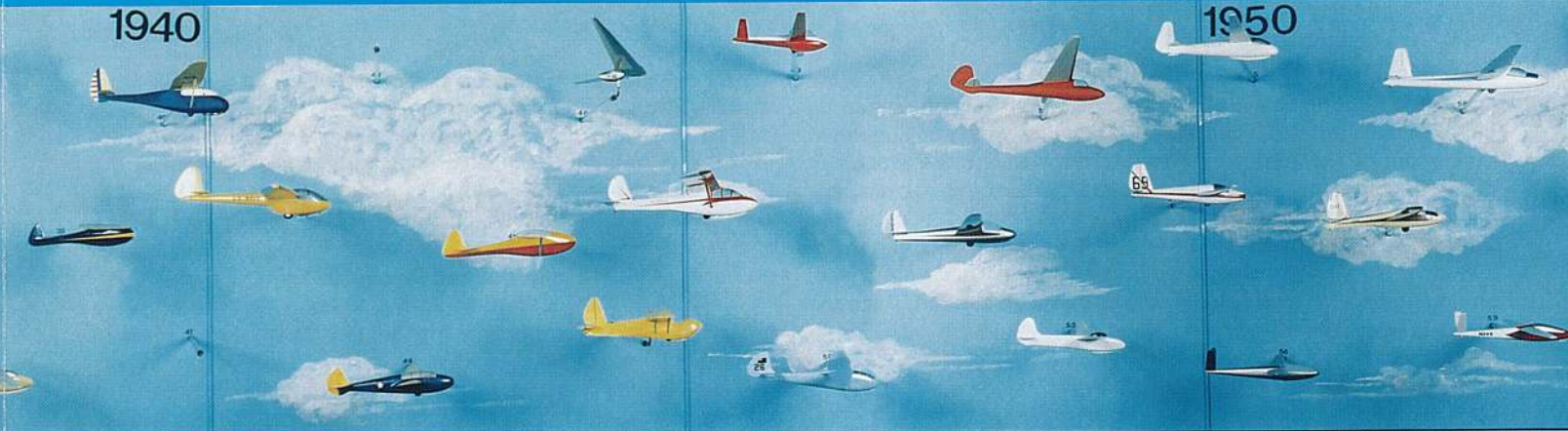
- Frank Lakish
Tom Copp
Lawrence V. Williams
Stan Hall
Pat O'Donnell
Calvin Weiss
R. Lockwood
Len Niemi
Per Danewid
David Robelen
Irving O. Prue
Per Danewid
Richard H. Johnson
Bogumil Beres
David Graham
Tom Conte
Irving O. Prue
Gregory V. Vasgerdsian
Tom Copp

1960

1970

1940

1950

NO. MODEL

- 80. Schleicher ASW-12 1965 (GER)
- 81. Schweizer SGS 2-32 1964
- 82. Schweizer SGS 2-33 1965
- 83. Schreder HP-12 1965
- 84. Glasflugel Libelle H-301 1966 (GER)
- 85. Laister LP-49 1967
- 86. Schreder HP-14 1967
- 87. Schleicher ASK-13 1967 (GER)
- 88. S-H Austria STD 1967 (AUST)
- 89. Schreder-Johnson HP-13M 1968
- 90. S-H Open Cirrus 1968 (GER)
- 91. Schweizer SGS 1-34 1968
- 92. Diamant 19 1968 (SWISS)
- 93. Marske Pioneer II Model B 1968
- 94. Glasflugel Kestrel H-401 1969 (GER)
- 95. Schreder HP-15 1969
- 96. Schleicher ASW-17 1971 (GER)
- 97. Glasflugel 604 1970 (GER)
- 98. Zimmerman Concept 70 1970
- 99. Caproni A-21 1970 (ITAL)
- 100. S-H Standard Cirrus 1970 (GER)

BUILDER

Per Danewid
Rocky Peters
Jeff Lewis
Steven P.
McKeown
Gerald Pomeroy
LeRoy Blum
Len Niemi
Ivan Hodan
B. Miletic
R. H. Johnson
R. Krause
Tom Conte
David Caron
Bernard Gross
LeRoy Blum
Charlie Spratt
Per Danewid
Edward Holt
Calvin Weiss
Alan Vopal
B. Krause

NO. MODEL

- 101. S-H Nimbus 2 1970 (GER)
- 102. Laister Nugget 1971
- 103. Schreder HP-16 1971
- 104. PIK-20D 1972 (FINN)
- 105. Pilatus B-4 1974 (SWISS)
- 106. Schleicher ASW-15 1971 (GER)
- 107. Schweizer 1-35 1974
- 108. S-H Janus 1974 (GER)
- 109. Schreder HP-18 1975
- 110. Applebay Zuni 1976
- 111. Grob G103B Twin 1976 (GER)
- 112. Monnett Monerai 1976
- 113. Schweizer 1-36 1978
- 114. Maupin Woodstock 1979
- 115. Schleicher ASW-21 1980 (GER)
- 116. Rolladen-Schneider LS-4 1980 (GER)
- 117. Schempp-Hirth Ventus 1981 (GER)
- 118. Schleicher ASW-20 1982 (GER)
- 119. Culver-Maupin Windrose 1983
- 120. Schleicher ASH-25 1985 (GER)
- 121. Rolladen-Schneider LS-6 1988 (GER)

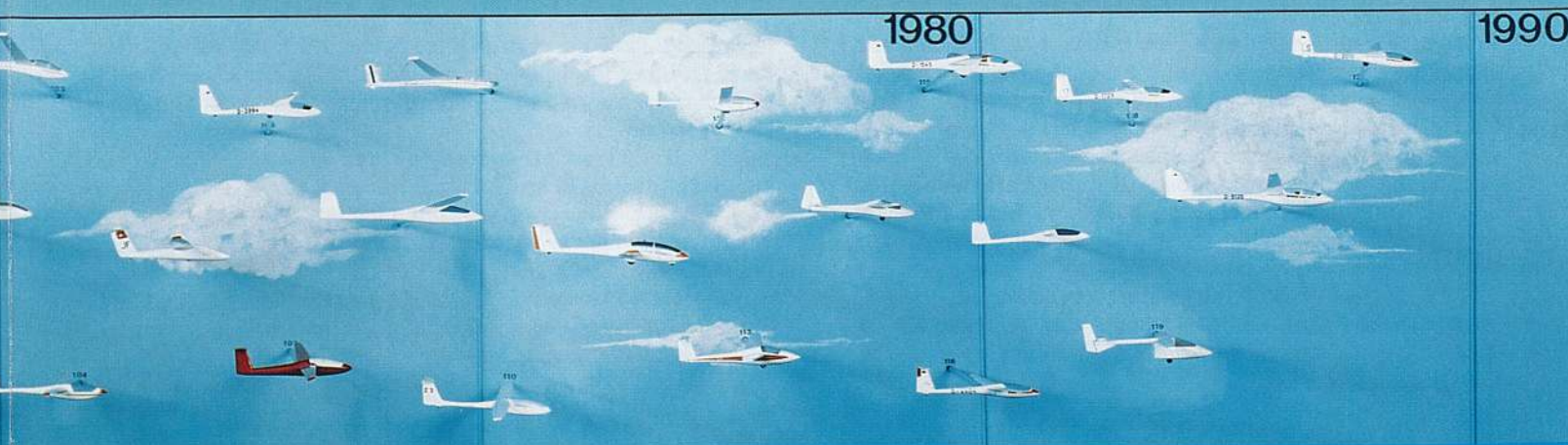
BUILDER

B. Krause
Dr. Ron Davis
Edward Holt
Felix A. Chardon
Joel Flamenbaum
Ivan Hodan
David Welles
B. Krause
Edward Holt
George Applebay
D. E. Koslowski
Calvin Weiss
Leonard Burz
Irv Culver
Ivan Hodan
Ivan Hodan
B. Krause
Ivan Hodan
Irv Culver
Ivan Hodan
Ivan Hodan

EOGASE photo © Tom Mike

1980

1990



History of EOGASE Continued from Page 5

Once the models started coming in, construction started on the circular exhibit wall, from which the models would be supported by the use of Pyrex rods. In front of the wall and the models, a series of lighted consoles give the details of each glider, and the names of the designer, the model sponsor and the model builder. The original 120 models had grown to 122, since we learned that a Lilienthal glider had actually flown in the U.S., so that was added, and one sailplane had been left off the official list in error. Although it was hoped that the exhibit could be completed for the 1992 season, it took longer than expected, and the Exhibit was dedicated on May 22, 1993 at the time of the Soaring Society of America Hall of Fame weekend at the National Soaring Museum.

At that time, a Symposium was held where many EOGASE designers, model sponsors and model builders attended. Interest-

ing discussions were held on the construction of these historic models, and in some cases on the research that was required in order to get the information needed to build them. A critique of the exhibit was held and suggestions for further development of the Exhibit were made. The NSM looks upon this as one of its special education "tools." It is planned to produce a catalogue of all the gliders and sailplanes in EOGASE, which would give more detail on each glider and sailplane and be available to the public.

At the EOGASE dedication, the National Soaring Museum gratefully acknowledged the generosity of those who made EOGASE possible and dedicated the exhibit to the designers who created the historic gliders and sailplanes in the first place, and to the model sponsors and model builders who contributed the models. Also, a thank you was given to the many volunteers and NSM Staff for their generous assistance in preparing the exhibit.

ED BYARS, DOUG & LIANNA LAMONT INDUCTED INTO THE UNITED STATES SOARING HALL OF FAME

United States Soaring Hall of Fame Banquet Second Annual Gross Sky Ghost Youth Achievement Awards



Members of the United States Soaring Hall of Fame welcome the 1992 inductees. Standing L. to R, Hal Lattimore, Fort Worth, TX, 1989; William Schweizer, Elmira, NY, 1984; Theodore Sharp, N. Hollywood, CA, 1983; Lanier Frantz, New Castle, VA, 1986; Victor Saudek, Los Angeles, CA, 1980; William Holbrook, Ridgeley, WV, 1974; Bernald Smith, Fremont, CA, 1984; Howard Burr, Glendale, CA, 1987; W. Gus Briegleb, Adelanto, CA, 1958; Richard Schreder, Bryan, OH, 1962. Seated, Virginia Schweizer, Elmira, NY, 1971; Paul A. Schweizer, Elmira, NY, 1955; 1992 inductees Edward Byars, Clemson, SC; Lianna & Doug Lamont, Redway, CA; and Floyd Sweet, McLean, VA, 1963.

Photo by NSM Staff

James W. Swinnich, Director of the National Soaring Museum, welcomed attendees to the 39th annual United States Hall of Fame festivities which this year included the opening of the Evolution Of Gliders And Sailplanes Exhibit. NSM trustees, officers and advisors were introduced along with E. Gene Hammond, Minooka, IL, and Larry Sanderson, Hobbs, NM, President and Executive Director, respectively, of the Soaring Society of America.

Swinnich extended the Museum's thanks to George and Lorrell Byard, Rosamond, CA, for bringing the "Ibex" across the country to join NSM's classic sailplane collection.

NSM President George Edwards presented Paul A. Schweizer the National Soaring Museum's Meritorious Service Award for "conceiving and bringing to reality the model exhibit on the evolution of gliders and sailplanes."

Trustee W. Stuart Schweizer, introducing Dr. Frank Gross, commented on his Gross Sky Ghost Youth Achievement Award, calling it a marvelous recognition, whose purpose is to signify and

reward outstanding young people who have shown leadership and achievement in soaring and have an interest in an aviation career.

Dr. Gross mentioned the high quality of the nominees. "They are all outstanding individuals who are brightening the future of motorless flight in the United States," he said. Dr. Gross reminisced about his days as a student in 1927 with the academic flying group at the University of Darmstadt in Germany. He described glider flights over the dunes at Rossitten by the Baltic Sea in what is now Lithuania.

Dr. Gross presented the shared national award to Margarita Brito, El Paso, TX, and Frederick G. Ernsting III, Charlotte, NC. Dr. Gross then presented the NSM's Gross Sky Ghost Youth Achievement certificate and monetary award to Steven Lewis, Big Flats, NY.

SSA President E. Gene Hammond noted that the Hall of Fame roster reads like a Who's Who in American Soaring. He



1992 U.S. Soaring Hall of Fame Inductee Ed Byars, Clemson, SC.

Hall of Fame Continued from Page 9

added that the 1974 co-entrant, Bill Holbrook, got there as a result of his world record flights and attempts, his Smirnoff Derby participation and his co-founding of the

soaring symposium.

William C. "Bill" Holbrook, Ridgeley, WV, presenting the Hall of Fame plaque to Edward F. "Ed" Byars, Clemson, SC, said, "We fly a flag when we do certain things, and it says, 'Dedicated to making good pilots better.' That's Ed Byars. Wherever you go in competitive soaring, there's Ed, trying to make good pilots better."

In his 37 years of soaring and membership in the SSA, Ed has owned many gliders up to his present Discus A, competed in many regional and most national contests, and earned all FAI badges and diamonds as well as the 1000km pin.

Byars, along with friend Bill Holbrook, founded "Soaring Symposia." These symposia brought the top world pilots, designers and manufacturers together to lecture to and teach aspiring competition pilots. Ed's numerous articles in **Soaring** and **Sailplane and Gliding** over the years have been well received. The classic textbook **Soaring Cross Country**, authored by Ed and Bill Holbrook, is still widely used.

Ed received the SSA Certificate of Appreciation in 1971, and the SSA Exceptional Service Award in 1975 for his contribution to competition soaring. Ed presently serves as an SSA Regional Director and as Vice President of the SSA.

Byars recalled several humorous incidents that occurred during his 37 years of soaring and SSA membership. In the 60's he was flying his Standard Austria sailplane in a contest on a day when the visibility was so bad "that it was like flying around in a bottle of milk. I was about two hours out and so down dead lost, I didn't know where I was." Byars said that those were the days when the crew would be given your proposed direction and they would follow you with the trailer. "You couldn't get any directional help from the ground because that was considered ungentlemanly and unsportmanlike," he said. However, the lost sailplaner thought that if he could just spot his car and trailer and ask their location he would know his position. Sure enough, there was his wife Betsy, their four kids and the trailer right beneath the Standard Austria. In his best modulated voice, he radioed, "Hey honey, what's your exact location?"... "Why, we're right under you" came the sweet feminine reply. "Thanks a lot," Ed replied as he started looking for a place to land.

Byars said that he would be helping Bill Sproule with his Eagles Program. He mentioned other SSA and National Soaring Museum programs that deserve help. "I wish you'd think about that a lot," he closed.

Class of '84 Hall of Famer Bernald S. Smith, longtime SSA member and Publications Board Chairman, presented Hall

1992 U.S. Soaring Hall of Fame Inductees Doug & Lianna Lamont, Redway, CA.



of Fame plaques to the husband and wife, 1992 co-inductees, Doug and Lianna Lamont, Redway, CA. He lauded them for bringing the exciting panorama of gliding and motorless flight to readers of **Soaring** magazine. "...With no typos," he quipped. Smith said they set a high level of perfection as their

standard for every issue. He said that if all the editions of **Soaring** magazine starting with January, 1937, were stacked you would have a column approximately 65 inches high. The Lamonts were responsible for 27 inches of that stack. Doug was the editor and Lianna the production editor for 151 editions of **Soaring**, and consulting editors on six additional issues... 10,000 pages; almost 12,000,000 words." Under the Lamonts' tenure, circulation increased from 13,400 to 18,000, advertising grew, and there were many technical advances, including full color covers. "You couldn't find a better team than Doug and Lianna Lamont. They brought **Soaring** magazine to a world-recognized pre-eminence," Smith said.

In July, 1970 Doug Lamont became editor of **Soaring**. An avid sailplane pilot he holds Gold Badge #480 and was the editor of "Zero Sink," the club newsletter of the Orange County (CA) Soaring Association. In April 1971 Lianna joined him as editorial assistant and in March 1974 she became production editor. They are being inducted to the Hall of Fame for their long and dedicated service to The Soaring Society of America, the soaring community and for their 13 years exemplary work in producing **Soaring** magazine "with a unique style and superb attention to detail."

Doug said that in its early decades the SSA had dedicated volunteer editors. As editor of OCSA's "Zero Sink," Lamont became known to Richard Miller, **Soaring's** first full-time editor. Bennett Rogers, who succeeded Miller as **Soaring** editor, later contacted Doug and asked him if he would be interested in editing the journal.

Doug Lamont grew up in the Lindbergh era and built models and a full size Boy Mechanic hang glider. He also designed and built a 45-foot secondary ship. He spoke of the special magic of watching the gliding activity at Palos Verdes and of William Hawley Bowlus' record-breaking flights towards San Pedro. His interest in music led him to college where he met Lianna. "By the end of the first semester we were engaged and by our sophomore year we had eloped," he said. Lamont has completed 30 years with the Santa Ana School System as music instructor.

Lianna noted women's names engraved on the Hall of Fame plaque on display at the NSM: Betsy Woodward, Helen Dick, Ginny Schweizer, Bertha Ryan and Doris Grove. She ad-

Continued on Page 11

ISSN#0892-0516

NSM is a publication of the National Soaring Museum, Harris Hill, R.D.3, 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
James W. Swinnich, Director
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 documents and artifacts.

Hall of Fame Continued from Page 10

dressed the women in the audience saying, "Every time you go by, take a look at it and add your name for all the crewing, doing the paper work and the other support tasks that you've done for soaring." She related several humorous incidents, one of which occurred while tracking Doug as he was on his Diamond Distance flight. Driving their camper with the sailplane trailer in tow, she made a wrong turn and wound up on a narrow dead-end road with just a chain link fence separating her from the freeway. Unable to turn the rig around she stood waving at passing freeway traffic until finally a vacationing couple stopped. The man climbed over the fence, loosened the trailer, turning it around and Lianna was on her way. She had long since lost contact with Doug but knew his direction, and started up the high Sierra country when it started to rain. She headed for a small airport where she thought Doug

Symposium Technical Session Continued from Page 4

down to 1,250 on one or two ships," he said, allowing that there was no way that a recreational glider for the general public could be built at a reasonable cost with that number of hours in it. He said the construction time would have to be brought down around 300-400 hours," and he didn't know if it could be done. He said his standing figure for a practical kit would be \$20,000 and he didn't think that a medium or high performance sailplane could be built for less than that. He added that if a carbon fiber spar, which is the strength of a sailplane, could be built at a very low cost, then some of the other items that enter into the design could be looked at.

Constructor Stan Hall, Sunnyvale, CA, submitted a letter he asked moderator Carmichael to read. He mentioned his successful "Cherokee II" program. The ship was heavier than the 254-pound maximum permitted under the FAA's ultralite rules, so it wasn't light weight that drew the fans. He thought it was a case of construction and the availability of cheap plans. "I don't think I made a dime," he wrote. "...There are two things the SSA could do, I believe to get the under 30's in. One, develop a design spec, (maybe adapted from the World Class spec) and make it available to anyone who wants to give it a try. I would suggest eliminating the requirement for aero tow (too expensive) and opt for auto or bungee launch. The second thing that the SSA could do is encourage and support builders' clubs and establish Designees like the EAA (Experimental Aircraft Association) does.

Oran W. Nicks, Texas A & M University, College Station, TX, was unable to attend and communicated by letter. He was impressed with a 12-meter Swift sailplane and its design, on display at the recent SSA convention. It offered many features of interest to young soaring enthusiasts. The designer, Ilan Kroo, a professor at Stanford, gave a video lecture. Nicks said that the ship achieves a performance similar to that of a Schweizer 1-26, with an empty weight of 115 pounds and including a rocket deployed emergency parachute system, at a cost of \$12,500. It can be carried on the top of a car and launched on foot, by auto, or by powered ultra-light tow plane. It utilizes a side-mounted control stick with a three axis control and apparently flies like gliders that sailplane pilots are used to. Nicks said that the designer's tests have provided convincing evidence that necessary stability and control are available with flaps, elevons and rudders with the pilot fixed at the center of gravity. The writer said that ultra-lites, including this one, are equipped with ballistic recovery chutes. They obviate the need to bail out, allow some possibility of saving the ship and afford better pilot protection. "We should be putting them in our new gliders to take advantage of crashworthy cockpits," he said. Research Engineer Nicks closed by saying that the future of soaring might be significantly affected by the evolutionary process being made by the young generation and this foot-launched

might have landed and inadvertently drove into a pumice mine. With the help of nearby workmen she again was on her way, this time to Bridgeport, where she learned, Doug had landed. "I was so gloriously happy that it had stopped raining, Doug was safe and my troubles were over that I failed to note that I was rolling along at over 70 miles per hour," she said. A highway patrolman flagged her down and she thought that after all she had been through, she was going to get a speeding ticket. "Lady, your pilot is at Bridgeport and if you'll just get behind me I'll escort you." It turned out that the patrolman called his son who was interested in soaring to come down to the field. Both father and son helped derigging the sailplane and putting it in the trailer. She asked, "How many of you have had an experience like that with the Highway Patrol?"



L to R, Dick Harrington, Otto Zauner, Lew Johnson, Dave Hudnut & Irv Prue. Back to camera, unidentified; R. Bill Foshag.

sailplane is an example of the new direction.

Dave Hudnut, Schwenksville, PA, said that what struck him while listening to these designers' ideas was that the answer was right here in a mix of proposals. The answer that some designers have given in the past was that you must always build in one material. Hudnut said he likes to work with wood. "But I'm willing to give that up if there is some combination that is cheaper, or faster and better to build in," he said. Hudnut would like to see a willingness among attendees to give up certain prejudices and direct their ideas toward the use of an amalgamation of materials and ideas.

Irving O. Prue, Pear Blossom, CA, built two magnesium sailplanes, one 46 years ago and the other 31 years ago and both are still flying. "...So the material is valid," he said. Lauding this material he added that magnesium's density is 2/3 that of aluminum. It lends itself to kit construction with matched hole tooling, such as the Schweizers have used. If properly designed it doesn't require pop rivets; 5056 alloy rivets are used with no anodic action involved. Unprotected, it is more stable in the pure atmosphere than any other metal used in building airplanes. Prue said it oxidizes slower, makes its own upside to protect itself and is the most plentiful metal on earth. He distributed an eight-page engineering review entitled, "Further Evolution Of Sailplanes" dealing with affordable sailplanes in the under 30 L/D range for the "little guy."

Sailplane builder and kit manufacturer Richard "Dick" Schreder, Bryan, OH, said that an aging membership is concerned because fewer new members are coming in. Schreder made Experimental Aircraft an offer to donate a model gyrocopter to each graduate from their "Young Eagles Program" after the youngster's first flight. "It's an effort to stir up their imagination and get them interested in aviation either as a lifetime avocation or as recreation," he remarked. Schreder said that SSA directors also agreed to sign up for the "Young Eagles Program," and he agreed to supply the young eagles with gyrocopters when they completed their sailplane rides from soaring clubs.

On another matter, he strongly endorsed the concept of mak-

Continued on Page 12



Per Danewid

Jeff Lewis

Steve McKeown

Dave Hudnut

Len Niemi

Symposium Technical Session Continued from Page 11

ing sailplanes strong enough. He illustrated the need by relating an experience he had while flying one of his HP's into a thunderstorm from which he was unable to withdraw. He was whisked up to 22,000 feet. He had an accelerometer on the panel which was pegged at 12 G's, three times! In describing the structure of the HP-18's tapered wings, he said that aluminum spars are used with 144 foam ribs of varied lengths set 4 inches apart. He added that although his ships have aluminum skins, after listening to Irving Prue he might go to magnesium. Schreder felt that to be safe in soaring, self-launching engines should be used.

Australian Reg Lodhunter submitted a paper, "Toward the Affordable Recreational Sailplane," read by moderator Bruce Carmichael. "With the exception of the Schweizer 1-26, we don't have a kit sailplane that has been built in very large numbers," he wrote. Lodhunter suggests an SHA (Sailplane Homebuilders' Association) group effort on design. "We have materials specialists, wood, metal and composites in SSA & SHA." His suggested approach is to form a corporation determined to design and promote this new recreational sailplane. He suggested the following:

1. Appoint a director or chairman to oversee the project.
2. Assemble designers who are willing to serve.
3. Materials and construction specialists to advise design groups on materials and methods for eventual assembly.
4. A team of two or three to do cost estimates at

various stages as a guide to the other groups and also to examine methods of raising funds for the prototype aircraft.

5. Appoint an enforcer who is familiar with the operation of the rack, thumb screws and any other of the gentle arts of persuasion that may be needed to achieve numbers one through four.

Lodhunter concluded: "We could do it. The question is, dare we try?"

Unable to attend the session, wartime and competition glider designer/builder Jack W. Laister submitted a video with his ideas for designing a grass-roots type of airplane with safety in mind. He noted that in his 50 or 60 years involvement with gliders not a great many safety improvements have been made. Laister observed that safety in race cars had improved to a point where vehicles going airborne and flying 700 feet have landed with their drivers escaping with just minor injuries. He said that with today's technology, most of the pilots who have been killed by diving into the ground in spins could have been saved with the use of safety devices designed with crushable foam and steel tubing. He illustrated with drawings his ideas for these concepts. He said that sailplane spoilers should be dispensed with and recommended training all people to fly in ships equipped with flaps. He also advocated a two-wing configuration for use on the same fuselage. This would effect two differently configured airplanes for two different purposes which would give a better than 30 to 1 glide ratio. He also suggested fixed landing gear with a little larger shock absorbing tire. The pioneer said that last February he started communication with the Federal Aviation Administration about the re-introduction of certified sailplane kits for builders to assemble and af-

terwards be certified in the standard class. (Details and copies of this correspondence are available from the NSM or Mr. Laister, 14945 Flathead Rd., Apple Valley, CA 92307.)

Paul A. Schweizer, Elmira, NY, co-founder of The Schweizer Aircraft Corporation and NSM Trustee, commented that the 1-26 was designed in 1952 and that approach was the right one. However, he added, "With 500 hours and a plant rate of \$35 to \$40 per hour or higher, you're talking about \$20,000 without even considering material and sales costs. It's very discouraging to compete building sailplanes." With a one-class design and not a lot of money and time worrying about performance, everyone is on the same basis, he said. The search now is for a world-class sailplane that would have a similar global impact on the movement. Schweizer reported that a committee's choice is the Polish PW 5. Work is underway for certification so that drawings can be made ready for world-wide distribution. Any construction material can be used in assembling the PW-5. The outer shape must be maintained as well as Standard Class weight limitations. FAA requirements for the country of registry will be adhered to. The challenge to designers is to save time on aerodynamics and detailing and come up with their own version, with the exterior identical to that of the world class. Dick Schreder found two faults with world class gliders: Fixed landing gears and no flaps. Paul Schweizer responded that Europeans don't like flaps; they use them as life devices and drag reduction, but they like brakes.

He said, "My own view is that it does require more of a pilot to use the flaps than it does to use the brakes." He said design of the world class glider should become available within a year.

Calendar of Events

Dec. 3	Annual Community Soaring Luncheon	NSM
Feb. 24-26	SSA 1994 Convention	Chicago, IL
March 4 - April 30	Every Friday evening - Saturday morning Youth encampment at NSM	NSM

For further information contact:
James W. Swinnich, Director
National Soaring Museum
RD#3 Harris Hill
Elmira, NY 14903
607/734-3128

Due to the complexity of the photography in this issue, publication is much later than expected. The NSM apologizes for any inconvenience to our readers.



Victor Saudek

Cal Weiss

Virginia Schweizer

Jack C. Bowlus

Howard Burr

The Symposium ORAL HISTORY SESSION

During the weekend festivities, the Museum probably had the highest concentration of sailplane designers ever gathered in one room, thanks to NSM Trustee Paul A. Schweizer. What a splendid opportunity to get them on video tape for the archives so that succeeding generations may know their ideas, motivations, problems and foibles.

Leonard "Len" Niemi, Greenville, SC, said that in the 1950's he wanted to build something at least as good as the Dick Johnson's 40-to-1 glide ratio "RJ-5" sailplane and came up with the famous "Sisu" design. (Sisu: Finnish for courage-guts) "The most complex sailplane ever designed and the most difficult to build," Niemi allowed. He added, "Nobody ever makes money building sailplanes... We just do it because it's the kind of work we want to do." His latest design is the "Junko," a self-launcher with the engine in the tail.

William "Gus" Briegleb, Adelanto, CA, recalled bailing out while testing an Army BG-8 over an old base at Manzanar, CA during WWII. "I got down okay, but nearly got killed on the ground." He and his factory assistant Ralph Barker, towed to 12,000 feet, behind a Ryan Brougham, "an afterthought of Lindbergh's airplane," Gus laughed. Everything checked out fine until they spun into vicious turbulence from a rotor under a lenticular wave. The BG-8 broke up bumping and thumping the former occupants as they bailed out and finally landed in the middle of a rock pile. The bruised but intact bailees were limping down a road adjacent to the Los Angeles aqueduct when they noticed an Army reconnaissance car barreling towards them. Its occupants had rifles and a machine gun trained on the recent airmen. The astounded airmen were ordered to throw down their chutes and were asked if they spoke English. "Yes...hell, yes," the bewildered sailplaners yelled. "Wow," they were told, "We were about to shoot and ask questions later." Someone had reported that Japanese paratroopers were invading the notorious Manzanar Japanese-American internment camp located across the road. The witty octogenarian who is writing a book, "Hi-Ho El Mirage," said that he had met some great people during his long aviation career. "You'll have to get the book and read about it," he closed.

Felix Chardon, New Hope, PA, told of the formation of a soaring club in 1934 with such pilots as Chet Decker, Warren Merboth, Kent Fendeson, Brent Miller, Pete Bonataux and Karl Shaub. Chardon said: "We fooled around with primaries and taught ourselves to fly...I designed myself a gull wing with a little bit of Harlan Ross in it, Hawley Bowlus in it and a little bit of Wolf Hirth and his 'Minimoa' in it. The war came along and I didn't have any time to finish it. In 1951 I brought the completed ship up here (Elmira) for the contest but I couldn't get off from work to fly it so I turned it over to my friend, Winnie Block. We were to take turns flying it. Then Block got caught in severe sink on a downwind dash. He caught the tip of the wing in high grass as he landed and cracked up...I never got to fly it! I sold the wreck to an airline pilot in Atlanta. Many years later I got a call from a fellow in Florida

who wanted to restore it and hang it in a museum. The last I heard, he'd given it to a boy scout troop. Just the other day Jan Scott (NSM trustee and Vintage Sailplane Association past president) heard from somebody else who has it. So if I find out who it is, I'll complete the circle, buy it back, glue it together again and maybe fly it."

Dr. Frank Gross, Akron, OH, pioneer designer and builder of the "Sky Ghost," the first two-place glider built in the United States, talked of his efforts to incorporate safety into his designs. "I came to the United States from Germany in 1929 and joined the Baker-McMillen Company, making gliders in Akron. I designed the 'Akron Condor,' a high-performance sailplane and the 'Cadet,' a training glider," he said. He added that he had designed the "Cadet" in six to eight weeks. "The guidelines were to make it safe; there were so many glider training accidents at that time...And I did. The 'Cadet' is very strong up front to protect the pilot. I don't recall anyone having lost his life in that glider," he said.

Conditions were tough when he returned in the U.S. after getting married in Germany in 1932-33 but he "scraped up enough money" to design and build the two-place "Sky-Ghost" (restoration on display at the NSM). "That plane is so dear to my heart; it incorporated so much of myself...The fuselage was painted black because that was the least expensive paint!" he said.

William "Bill" Foshag, Carlisle, PA, talked of his recent research on the pre-recorded history of gliding, particularly in North America, from the 15th Century exploits of an Aztec king (NSM: *Winter 1991-92, Vol. 13, No. 2*) to those of a 19th Century West Virginia pilot. He talked of finding a state historical marker in the Allegheny plateau, off old Route 50 in West Virginia. "It's bullet riddled, surrounded with beer cans and proclaims this as the site of glider flights in 1867 by a Col. Fleming," Foshag said. Tom Crouch mentions the incident in his book, "A Dream of Wings."

Foshag said he stumbled on accounts of Aztec soaring while doing research at the Library of Congress. It's an area that he feels should be pursued. He said he found notes by an archeologist in 1934 who said he had found references to flights by an Aztec king, Nezahualcoytl, in his research in Mexico and at the Archives of the Indies in Madrid, Spain.

"This minor ruler was said to have made glider flights before the Spanish conquest of 1518-19. The fierce Aztec warriors wore suits of armor and shields of feathers woven with such intricacy that in some cases they could deflect the Spaniards steel swords, though not the invaders' crossbow bolts. Nezahualcoytl had the disposition, energy, and forces at his command for the creation of great engineering works. In temperament, he was very much a DaVinci. It seems that Nezahualcoytl had made designs and had flown, presumably in a glider made of feathers," he said.

Victor Saudek recalled his meeting with Orville Wright, in Dayton, OH, after graduation from engineering school. Saudek was hitchhiking to Frankfort, MI, to his first job, designing gliders

Continued on Page 14

Oral History

Continued from Page 13

with Stan Corcoran and Ted Bellak. The newly-minted engineer called Wright and was told come right over. One of the first things he asked the aging pioneer was why he returned to Kitty Hawk in 1911 to fly gliders when the Wright Flyer had made its first powered flight in 1903. Orville responded, "Well, you know that flying gliders is more fun than flying power and we knew that then; that's why we went back: to fly gliders." Saudek said they chatted for about 45 minutes. He read "The Pilotless Cargo Glider Saga," a story that he wrote for the Vintage Sailplane Association publication, "Bungee Cord." In the mid to late 1930's a system for dry-dropping and snatching mail by airplane in flight was devised. The Stinson Reliant SR models B, C & F were selected and modified for this work by All-American Aviation. The company's president was soaring champion, Richard C. duPont. Saudek reviewed the method used by All-American Airways to service 226 mail pick-up sites in the Northeast. The pilot flew through the pick-up station which was two vertical poles to which a loop with a mail bag/carton was attached. The pilot flew low enough to have the Stinson's belly-mounted pick-up arm snag the loop with the mail attached as the ship zoomed by. The carton with the mail bag inside was then reeled into the Stinson. During WWII, duPont developed a variation of this operation using larger towplanes to snag large combat gliders instead of mail bags. Douglas C-47's and Boeing B-17's regularly snatched cargo and troop carrying gliders weighing from 4,000 to 16,000 pounds. After the war it was thought that these heavy duty gliders could be used as a method of fast express delivery in the U.S. However, pilots' salaries made it uneconomical. About this time the Post Office found that bus lines or mail trucks could move more small town mail cheaper and faster than could railroads or All-American Airways System. All-American eventually became Allegheny Airlines and is now USAir. "It was fun while it lasted and it showed the kind of dreaming that can be made to work," Saudek said.

Women's record setter Mrs. Virginia (Ginny) Schweizer talked of her gliding and soaring exploits from the time she started flying as a young woman with the Long Island Glider Club. She



EOGASE Model Builders and Symposium participants. Top row L to R, Fernando Rueda, Gus Briegleb, Dick Schreder, Irv Prue, Rocky Peters, Paul A. Schweizer, Len Niemi, Cal Weiss, George Applebay, Per Danewid, Felix Chardon. Front row, L to R, Don Hobel, Peter Mann, Jeff Byard, Steve McKeown, Jeff Lewis, and Howard Burr.

started in a Franklin primary and advanced to the Goppingen I "Wolf" and the British "Kirby Kite."

"I loved every bit of it. After WWII came the surplus ships, the Schweizer TG-2 and 3A, the L-K's and the Pratt-Reads. It was then that several partners and I started the very first GI flight training school, in Florida. That lasted for several years. Unfortunately I had a mishap hopping passengers down there in a Pratt-Read," she said.

The recuperation held her back but she entered competition in Texas. "I'm not one who's in favor of special women's competitions that some are trying to promote today. I think that women are a part of the soaring world and should be equally in competition with men, but should have special women's records," she said. "To get going in those days, I started with the Women's goal record, then the women's distance record."

Later, she dropped out of competition but continued promoting the sport throughout the country. She is a member of the 99's, a women's pilot organization started by Amelia Earhart, based in Oklahoma City and active in encouraging women in all phases of flight. She has been married for 25 years to Paul Schweizer and assisted him with his book, **"Wings Like Eagles - The Sport of Soaring in the United States."**

"I love soaring and will always be in there trying to promote it," she said.



M'Leia Holt, Aurora, NY, points to models that her dad, Ed, made for the NSM's EOGASE exhibit.

Photo by Al McCarty

You can help in preserving America's soaring heritage

If you have historic artifacts and excess or duplicate publications, please contact the National Soaring Museum to discuss contribution to the Museum's collections and archives.

Share your collection of soaring objects and reminiscences with interested succeeding generations.

Address: James W. Swinnich, Director
National Soaring Museum
RD#3, Harris Hill, Elmira, NY 14903