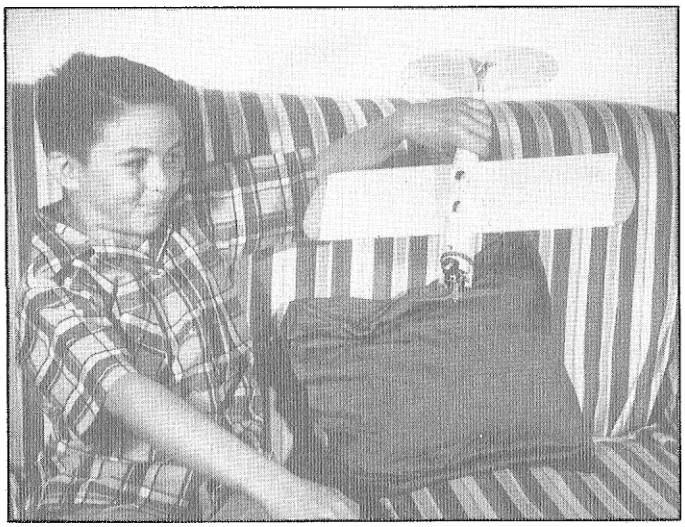
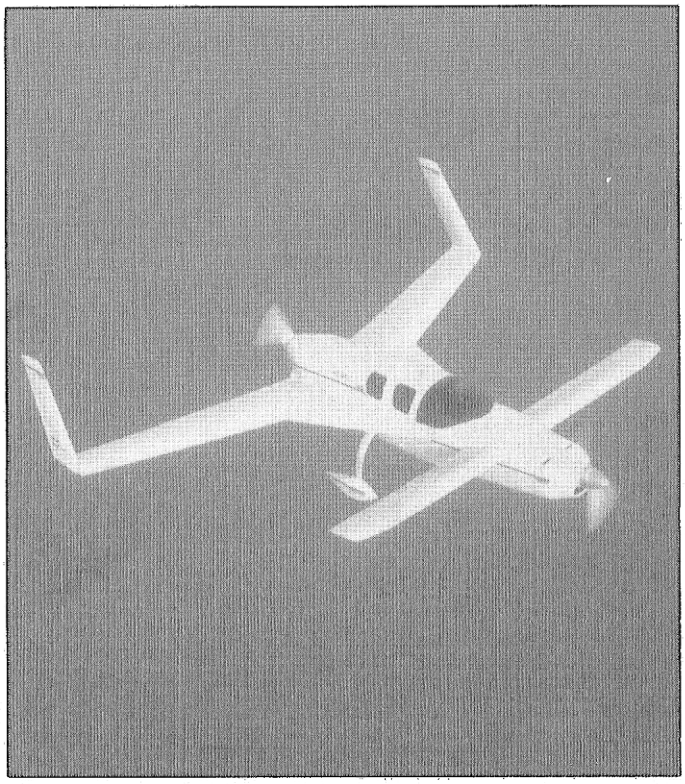
The Aero Club of
Northern California

1989 Award Winner

Elbert (Burt) L. Rutan



Just about all of Burt Rutan's life has been wrapped up in aviation. He has become a pilot, an engineer, a true pioneer.



Defiant - RAF Model 40
The Defiant is a light twin general aviation aircraft. Its fuel economy, safety, utility, performance and operating costs are all significantly improved as compared to conventional aircraft.

BACKGROUND

In June 1974 RAF became a full-time business and moved to a rented WW II barracks building on the Mojave, California airport. From that facility the VariEze was developed (two prototypes were built and tested); the manufacturing manuals for the VariViggen and VariEze were marketed, and the special-performance version of the VariViggen was developed. Also, the feasibility studies and design of the AD-1 were done for NASA.

In March 1977 RAF moved into a new facility on the Mojave Airport flight-line. After that move, the Quickie, Defiant and Long-EZ prototypes were developed, as well as several consulting jobs for NASA and the USAF in support of the AD-1 and general canard aircraft technology. A low cost solar water heating system was developed and tested.

Rutan Aircraft was incorporated in early 1980. The new corporation continued the tasks of marketing and supporting the VariViggen, VariEze and Long-EZ programs. Further research aircraft developments continued, including the STOL Grizzly, the Defiant twin, the selflaunching sailplane Solitaire, and testing the NGT Jet trainer. The Voyager round-the-world aircraft was designed at RAF in 1980. Construction started in mid 1982, and flight testing begun in mid 1984.

Burt Rutan founded SCALED Composites, Inc. (SCALED) to develop research aircraft. The company now employs 93 people in a total of 65,000 square feet in three flight line buildings located on the Mojave airport. Most of the projects done by SCALED are proprietary to the customer, therefore the facility is closed to the public. Six major aircraft programs have been completed thus far. These include the Microlight aircraft which was developed for Lotus, the 85% scale Starship for Beechcraft, the Predator agricultural aircraft for ATAC, the CM-44 UAV for California Microwave, the Scarab Model 324 reconnaissance drone (structure only) developement/production for Teledyne Ryan Aernautical and the Advanced Technology Tactical Transport (ATTT) for DARPA. SCALED developed the concept and the detail aerodynamic design of these aircraft. SCALED also designed, fabricated, and flight tested prototypes for these projects.

Elbert (Burt) L. Rutan

Elbert (Burt) Rutan was raised in Dinuba, California. He received his Bachelor of Science degree in Aeronautical Engineering at California Polytechnic University in 1965. His course work also included classes at the Space Technology Institute, California Institute of Technology, marketing and personnel management courses in business administration from Golden Gate College, and classes in the Aerospace Research Pilots School at Edwards Air Force Base. Mr. Rutan holds, in addition, the honorary degree of Doctor of Science from California Polytechnic State University, San Luis Obispo, dated 13 June 1987, Doctoral of Science, *honoris causa,* from Daniel Webster College, 17 May 1987 and Doctoral of Humanities, *honoris causa,* from Lewis University, 22 May 1988.

Mr. Rutan worked from 1965 until 1972 as Flight Test Project Engineer at Edwards Air Force Base, California. Then in March 1972, he became director of the Bede Test Center for Bede Aircraft in Newton, Kansas.

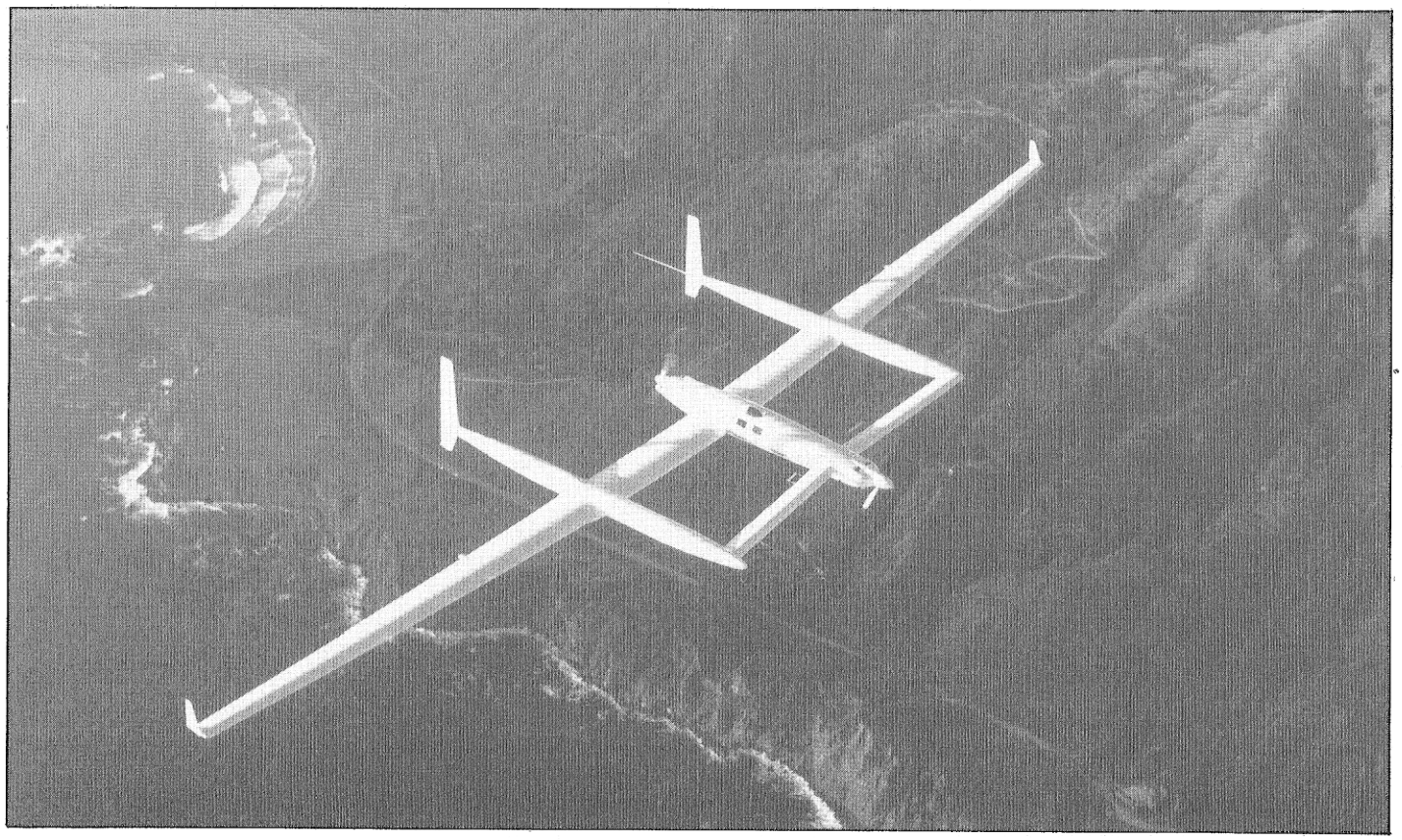
In June of 1974, at Mojave, California, Mr. Rutan formed the Rutan Aircraft Factory (RAF) to develop light aircraft, and to market technical and educational documents. Through this company, the VariViggen, VariEze, NASA AD-1, Quickie, Defiant, Long-EZ, Grizzly, scaled NGT trainer, Solitaire, Catbird, and the world-flight Voyager aircraft were developed.

In April 1982, Mr. Rutan founded SCALED Composites, Inc. (SCALED) to develop research aircraft. These have included the Microlight aircraft developed for Lotus, the 85% scale Starship for Beech Aircraft Corporation, the Predator agricultural aircraft for Advanced Technology Aircraft Corporation, the CM-44 UAV for California Microwave, Inc., the Scarab Model 324 reconnaissance drone for Teledyne Ryan Aeronautical, and the ATTT advanced technology tactical transport for DARPA. These prototype aircraft were designed, fabricated and flight tested at the SCALED facility in Mojave, California. The high technology wing sails for the *Stars and Stripes* 1988 America's Cup Challenge Race were fabricated at the SCALED facility. Current SCALED projects include a light business turbofan, a close air support aircraft, an unlimited class air racer and the flying surfaces for Orbital Sciences Corporation's *Pegasus* space launch vehicle.

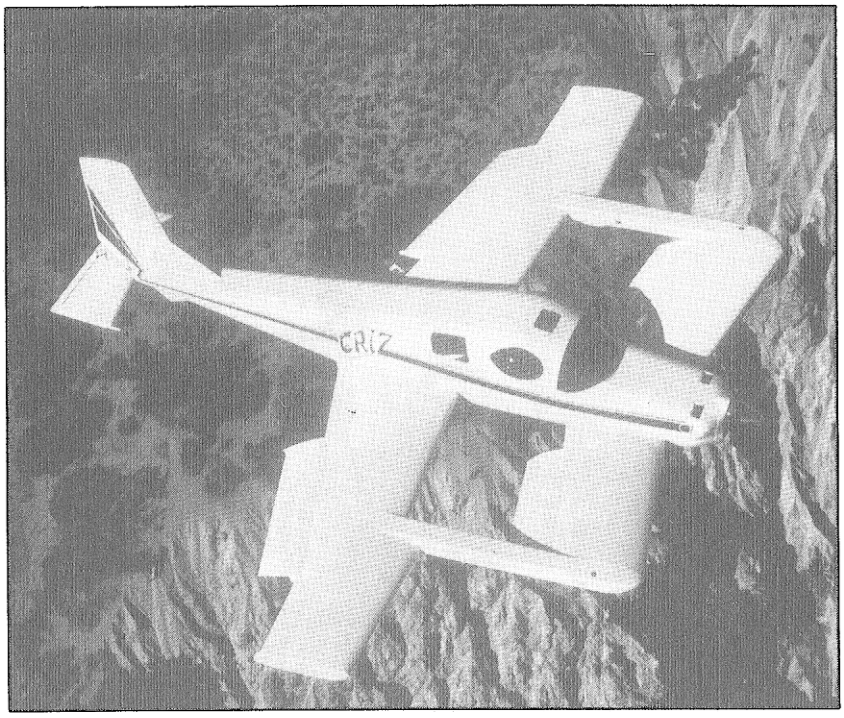
Mr. Rutan has extensive pilot experience.

A few of the awards which Mr. Rutan has received include:

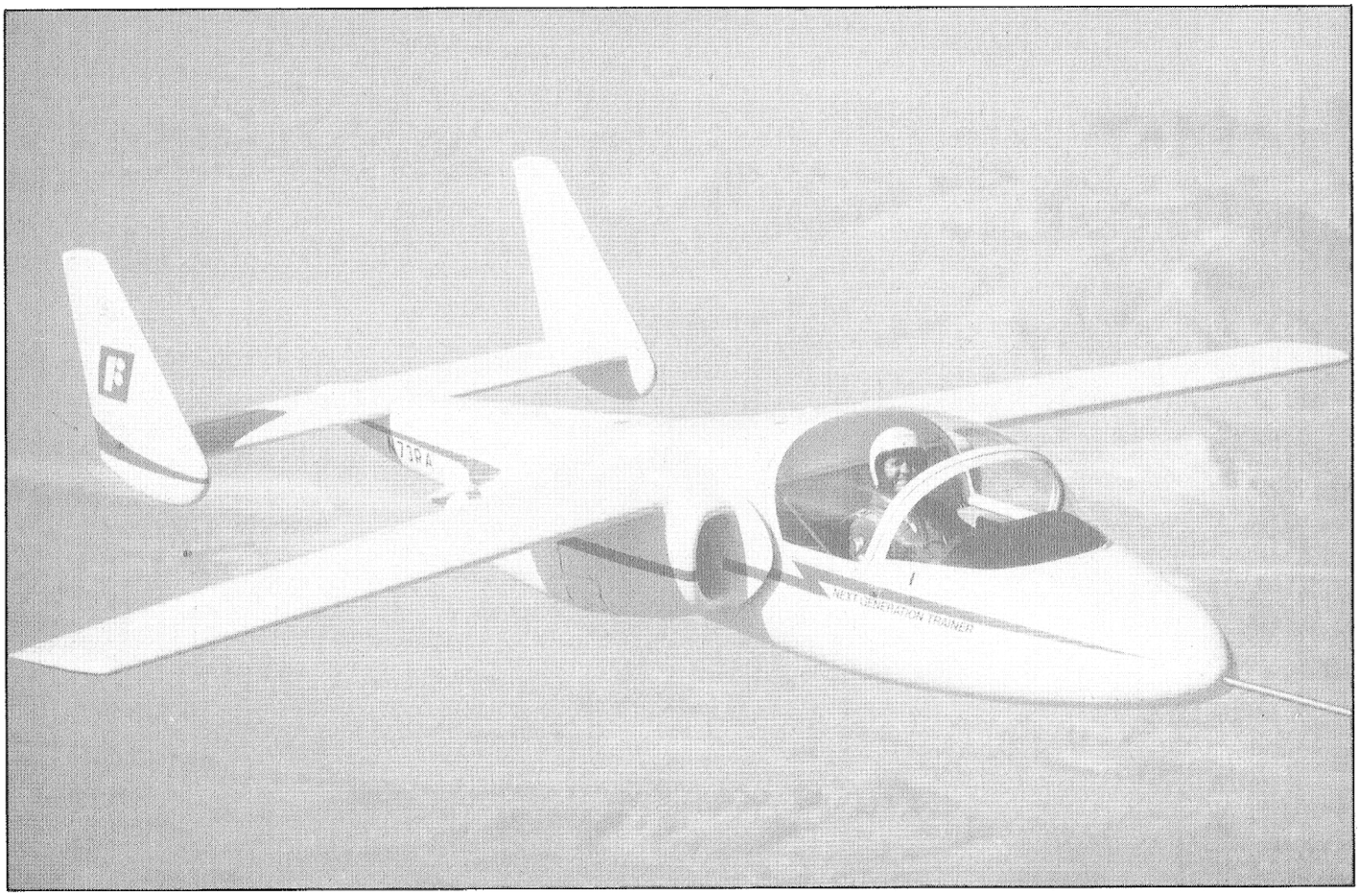
- EAA Outstanding New Design, 1975, 1976, and 1978.
- Presidential Citizen's Medal presented by Ronald Reagan, December 29, 1986.
- Grand Medal of the Aero Club of France, January 29, 1987.
- National Aeronautic Association and the National Aviation Club, 1987 Collier Trophy.
- Society of Experimental Test Pilots, 1987 J. H. Doolittle Award.
- Royal Aeronautical Society, British Gold Medal for Aeronautics, December 1987.
- *Design News* Engineer of the Year for 1988.
- Western Reserve Aviation Hall of Fame, Meritorious Service Award, 2 Sep 1988.
- The International Aerospace Hall of Fame Honoree, 24 Sep 1988.



As the development of Voyager continued the strong feelings of togetherness in the Rutan family showed up. "This will be a big thing for Burt", said his brother. "If we succeed, it will be a real fitting tribute to him and his designs."



Grizzly RAF Model 72
The Grizzly is a proof-of-concept research aircraft with STOL capability.



Burt in the NGT Flight Demonstrator RAF Model 73.
The Model 73 is a scaled flight demonstrator of Fairchild Republics proposal for the Air Force's Next Generation Trainer (NGT) program.

Seventh Annual Awards Presentation

The Aero Club of Northern California
March 18, 1989
San Jose, California

Welcome and Introduction ..... Raul L. Regalado
President
Introduction of 1989 Officers ..... Roger S. Coen
Introduction of Guests ..... Thomas E. Leonard
President-Elect
Aero Club of Northern California

DINNER

Invocation ..... Mary Rose Loney
Asst. Director of Aviation
San Jose Int'l. Airport
Presentation of Aero Club of Northern California's
"James M. Nissen Scholarship Award" ..... Steve Sullivan
Chairman - Scholarship Committee
Guest Speaker ..... Burt Rutan
Crystal Eagle Award Presentation ..... Tom Leonard

The Crystal Eagle Award

The Aero Club of Northern California Crystal Eagle Award is presented annually to recognize and honor an individual who has made an outstanding contribution to the advancement of aviation or space flight.

Crystal Eagle Award Winners

1983: General James "Jimmy" Doolittle
1984: Brigadier General Charles E. "Chuck" Yeager
1985: Stanley Hiller, Jr.
1986: William "Bill" Lear, Sr.
1987: James M. Nissen
1988: Anthony W. "Tony" LeVier

The Crystal Eagle: A distinctive work of art

The Crystal Eagle Award is a unique work of art crystal handcrafted in Sweden.

It is fitting that the eagle should be the symbol for the Aero Club's annual award. The North American eagle is recognized as a bird possessing great strength, natural grace, keenness of vision and power in flight. The eagle has been used by man to identify with flying since its inception to our current successes in space.

The crystal reflects the medium of flight -- transparent, yet ever present.

The Crystal Eagle is mounted on a California redwood base, unique to Northern California. In its natural state redwood has unusual durability, commensurate with the recipients of this coveted award.

Our Special Thanks to:

Hillis Printing Company
Chuck Hillis
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RAF/*Scaled Composits* archives
The Complete Guide to
Rutan Aircraft 2nd Ed.

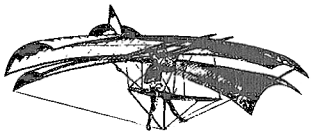
The Aero Club of Northern California was formed to promote those activities which advance aviation and aerospace within Northern California.

We are a chapter of the National Aeronautic Association, (NAA) which is the oldest independent, non-profit aviation organization in the United States, and the sole U.S. representative to the Federation Aeronautique International.

We embrace the goals of our parent organization in our efforts to support a vigorous aviation and space program for students at all levels of learning, and to recognize and honor those who make outstanding contributions to the advancement of aviation and space flight.

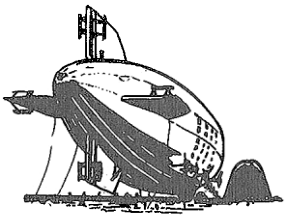
About our logo ...

Incorporated in the logo of The Aero Club of Northern California are some of the most significant contributions the area has made to the art and science of flight.



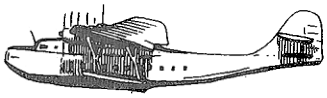
Montgomery Flight - 1904

Often referred to as "The Father of Basic Flying" Dr. John Montgomery was a true aviation pioneer. San Jose was the site of many of his historic achievements. Alexander Graham Bell noted that, "All subsequent attempts in aviation must begin with the Montgomery Machine."



Moffett Field - 1933

Dedicated April 12, 1933, Moffett Field continues to be the United States guardian of the Pacific. It is a part of northern California's defense commitment to aviation.



China Clipper - 1936

Lifting from San Francisco Bay waters on November 22, 1935, the Clipper became the first airplane to fly the Pacific non-stop. Cutting over 15 days off the best surface time from San Francisco to Manila it lead to the elimination of the barriers of space and time.

NASA Ames Research Center - 1982

Northern California's continued contributions to involvement in man's quest for his ultimate destiny is assured by the ongoing advancements in aerospace technology at NASA's Ames Research Center.