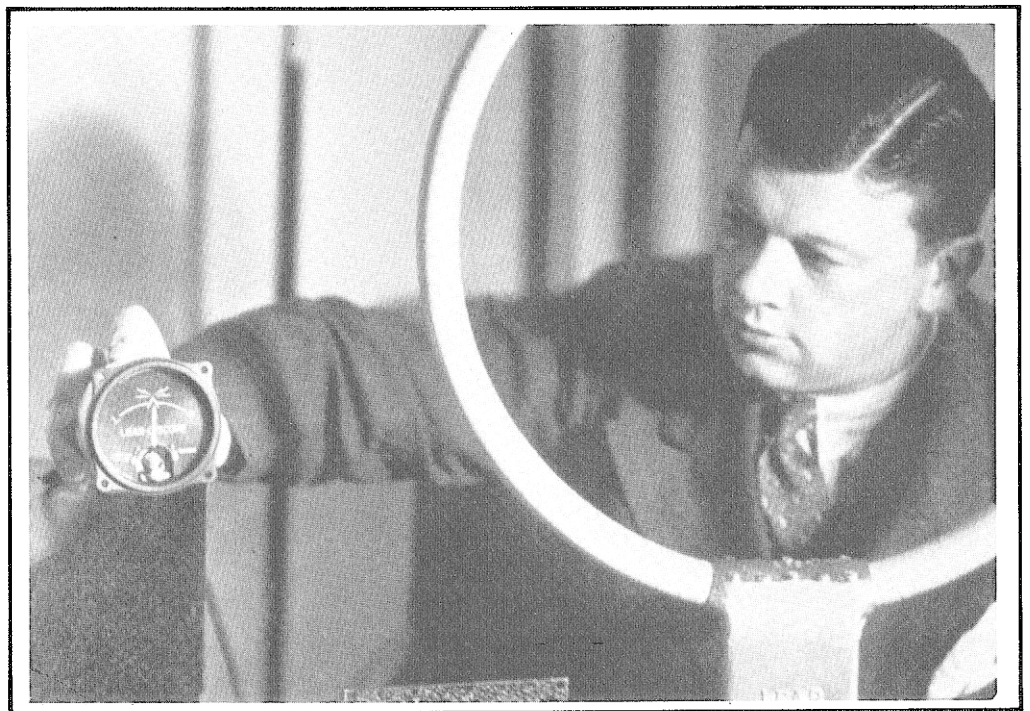


The Aero Club of Northern California
1986 AWARD WINNER
WILLIAM POWELL LEAR, SR.



1986 Crystal Eagle Award Winner

BILL LEAR

Born June 26, 1902 in Hannibal, Missouri, Bill Lear was a young man who wanted to learn. Growing up in Chicago's South Side he could be found tinkering in his friend, Shargo's, basement junk pile. By doing so, Lear taught himself enough to begin charging \$2 to repair almost anything electrical.

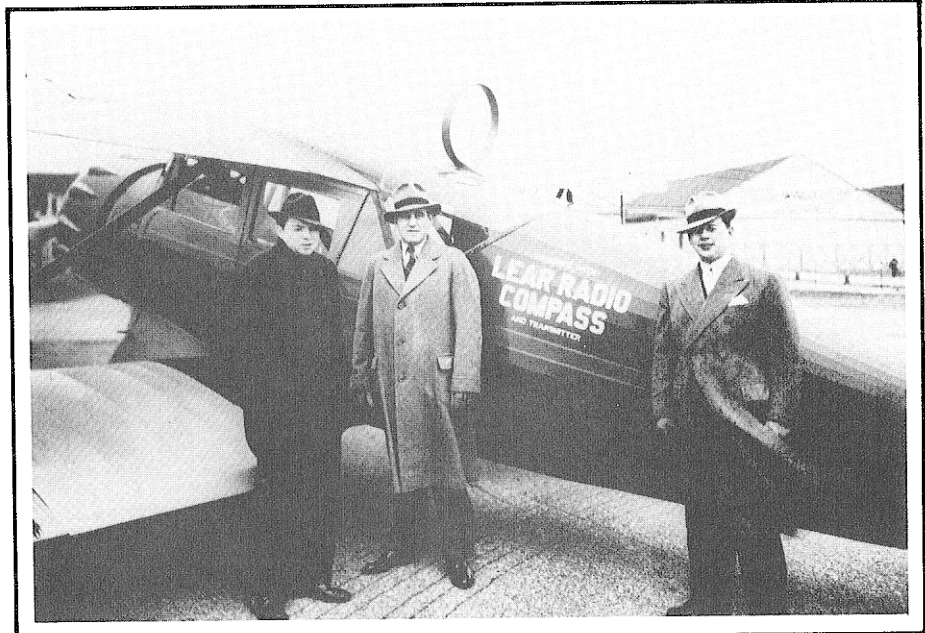
Bill Lear left home at 16, taking a variety of jobs including one without pay as a mechanic at Grant Park Airport to learn as much as he could about airplanes.

In 1922, with \$500 borrowed capital he opened his first business, in Quincy, Illinois—repairing radios. During this time he miniaturized coils (thought impossible at the time); eliminated the need for batteries and worked out other improvements that led to the development of the home radio in its present form.

Lear was President of Lear Radio Laboratory, Tulsa, Oklahoma, from 1924 to 1928. He also developed the Radio Coil and Wire Corporation and traded it to Paul Galvin for 1/3 interest in the Galvin Manufacturing Company.

Galvin Manufacturing Company became Motorola Corporation and went into business with Lear's development of the first automobile radio.

In 1931 Bill Lear entered the aviation product market with the creation of the Lear Radioaire—a radio receiver for private pilots. Most private pilots in those days could see little use for a radio. As they were hard to sell, he traded 300 of the radio sets for a Stinson Reliant.



Young Bill Lear, (far right) with the Waco cabin biplane he flew coast to coast in the thirties to demonstrate his early avionics offerings. Bill's two friends are unidentified.

He moved his Lear Development, later known as Lear, Inc. from Chicago's Curtiss-Reynolds Airport to New York City. It was there that he found himself bankrupt at the end of March 1934.

In his workshop Bill pondered "what the world needed," and, in his own words, it went like this: "I conceived the idea of designing the front end for the home radio, from the second detector back; and this front end

would be common to all kinds of radio sets that you might want to make. By virtue of this fact, it would enable a manufacturer to make a better front end, and at the same time at lower cost. This became the "Magic Brain", which RCA bought from me ... I designed, built and demonstrated this concept within two weeks, and on the 13th of April 1934, I had in my hand a contract for \$250,000."

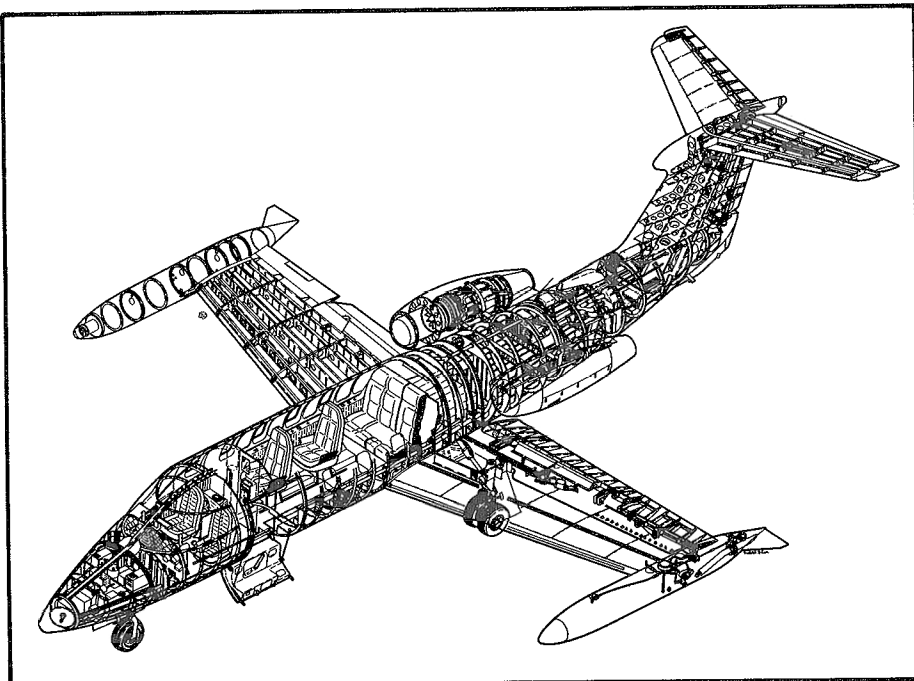
Next he developed the Learscope Direction Finder for aircraft. The device was an instant success, moving aerial navigation closer to the electronic age.

Soon afterward he created a 35 watt aircraft radio transmitter and flew coast to coast with it in a WACO Biplane.

"It was the first time that many airway radio stations had heard a private pilot on the air," Lear recalled. "As a result, they would teletype each other and say, 'There's a private airplane flying with the transmitter. Give him a call.' So I was sitting up there, listening to all the different stations calling me in an effort to get some communication. Now, you know how it is today, you can hardly get a word in edgewise, but on that trip I was the only private plane in the air and they were all calling me."

In 1939 he moved to Dayton Municipal Airport in Vandalia, Ohio to be near Wright Field and his biggest customer, the U.S. Air Corps. There he introduced the Learmatic Omninaavigator—a radio receiver that, tuned to any ground station, would lead a pilot to its transmitter.

On January 5, 1942 in Greenwich, Connecticut Bill Lear married Moya Marie Olsen, daughter of the late Ole Olsen of "Helzapoppin" fame.



Learjet 25, a 10-place craft with a high-speed cruise of 528 mph at 41,000 feet. It is powered with two General Electric engines that produce 2,950 lbs. thrust each. Normal range with full load is 1,658 miles. Learjet 25 established official world's record for planes in its class by climbing to 40,000 feet in six minutes and 19 seconds on February 20, 1968.

Lear entered the auto-pilot market with his three-axis device which was 75% lighter in weight than existing automatic pilots. It gained him the Collier Trophy, civil aviation's highest award, presented by President Truman in 1950. Other awards, domestic and foreign, came to Lear during the fifties and early sixties as his restless imagination fathered newer and more sophisticated flight systems—among them a completely automatic blind landing system demonstrated in Paris in 1962.

By 1959 Bill Lear headed a company that was grossing a hundred million dollars per year. The boy who had left home with everything he owned tied in a shirt had become a very wealthy man. But retirement was not to be considered by Lear who said "I'd rather wear out than rust out."

In 1962 Lear sold all interest in Lear, Inc. for \$14,300,000 in order to produce a small business jet aircraft. He thought other aircraft makers missed a bet with their more expensive airplanes. His idea was to build a small, simple, executive jet that matched the speed and comfort of the airlines. It was to be easy to fly and economical.

He moved to Wichita and built his first Model 23 Lear Jet in 1963. The maiden flight was October 8, 1963. Priced at \$595,000 over 100 were sold the first year. It is the first production aircraft in the world that was financed and developed by a single individual. There are more than 1000 in operation at this time.

Lear Jet became publicly owned in 1964. The heavier, improved Model 24 Lear Jet and the 10-place Model 25 were introduced in 1966. In May, 1966 in a dramatic 'round-the-world flight, a Lear Jet (N427L), a Model 24, carried four people around the earth in 65 hours and 40 minutes elapsed time (50 hours, 20 minutes flying time), establishing 18 world records for planes in its class.

Lear Jet Industries was sold to Gates Rubber Company of Denver in 1967 for \$28 million so that all efforts could be directed toward the research and development of low-pollution power systems to replace the internal combustion engines. For this research property at Stead Air Force Base in Reno, Nevada was purchased for \$1.3 million and Lear Motors Corporation was established.



Bill Lear, in the cockpit with his Automatic Direction Finder.

Bill Lear Awards and Honors

- 1940 Frank M. Hawks Memorial Award for the design of the Lear-O-Matic radio navigation system for airplanes.
- 1950 Collier Trophy for "the greatest achievement in aviation in America during the previous year." Awarded by the President of the United States for the design of the Lear F-5 automatic pilot and automatic approach control-coupler system for jet aircraft.
- 1951 Doctor of Engineering honorary degree, University of Michigan "to give public expression to the University's appreciation of the advances which your inventive genius have made possible in modern methods of communication and aviation."
- 1954 Horatio Alger Award "for having pulled himself up to the top of his field by his bootstraps."
- 1960 Sweden's Thulin Medal for his contributions to the aircraft industry.
Great Silver Medal by the City of Paris for his aid in developing the autopilot for the Caravelle jetliner.
- 1969 Engineer of the Year Award for 1969 from the Los Angeles Board of Supervisors.
Doctor of Science Honorary award from Art Center College of Design.
- 1970 Honorary Fellow in American Institute of Aeronautics and Astronautics.
- 1972 Gold Plate Award from the National Academy of Achievement.
Cresson Medal for contributions to aviation with his flight instruments and jet aircraft from the Franklin Institute of Philadelphia.
Doctor of Engineering honorary degree from the University of Nevada.
Spirit of St. Louis Award from the City of St. Louis and St. Louis University for "pioneering achievement of significant benefit to mankind."
Industrial Research 'man of the year' award from Industrial Research Magazine.
Selected speaker at the United States Naval Academy, Annapolis for the Forrestal Speaker Series.
- 1973 American of the Year Award for his contribution to ecology and his intensive research and development of low pollution power systems to replace the internal combustion engine.
- 1974 Janus Award for developmental work on navigational aids, especially in the field of aircraft instruments.
Doctor of Engineering honorary degree from Notre Dame University.
- 1975 Doctor of Science honorary degree from Northrop University.



Moya Olsen Lear

- 1976 Doctor of Engineering honorary degree from Carnegie-Mellon University.
- 1977 Golden Omega Award on behalf of the U.S. men of science and industry, and the users and producers of electrical and electronic materials and equipment for his contributions to technological progress.
Sarnoff Citation Award from the Radio Club of America given for significant contributions in Electronic Communications.
- 1978 Enshrined in the Aviation Hall of Fame, Dayton, Ohio (posthumously).

THE AERO CLUB OF NORTHERN CALIFORNIA

Chartered by the National Aeronautic Association on December 17, 1981 (the anniversary of the Wright Brothers' 1903 flight), the Aero Club promotes activities which advance aviation and aerospace within Northern California. It is a chapter of the National Aeronautic Association, the oldest independent non-profit aviation organization in the United States.

The Aero Club of Northern California supports the goals of its parent organization the NAA:

- To keep the public informed of the importance of aviation and space flight to the nation's economic progress, its security, and to international understanding.
- To support a vigorous aviation and space education program for students at all levels of learning.
- To recognize and honor those who make outstanding contributions to the advancement of aviation and space flight.

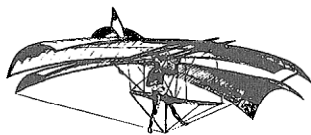


This program is
dedicated to the memory of
The Challenger Seven
January 28, 1986

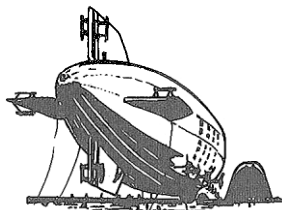
OUR SPECIAL THANKS

Chuck Hillis
Hillis Printing Company
Sandra Brunett
Peggy Shea
Steve Lopes

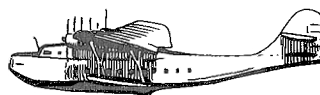
Raul Regalado
Jerry Bennett
Tom Leonard
Tom Spilsbury
Lear Archives



Montgomery Flight - 1904



Moffett Field - 1933



China Clipper - 1936



NASA Ames Research Center - 1982

FOURTH ANNUAL AWARDS PRESENTATION

The Aero Club of Northern California

February 7, 1986
San Jose, California

Welcome..... Roger S. Coen
President

Introduction of Guests..... Master of Ceremonies,
Fran Fox

Dinner

Presentation of Aero Club of
Northern California Scholarship
Award Tom Leonard,
SJSU Aeronautic Dept.

Guest Speaker Moya Olsen Lear

Presentation of Aero Club of
Northern California Crystal
Eagle Award to Bill Lear Roger S. Coen

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.

