

Karl H. Stefan
Inducted into the U. S. Ballooning Hall of Fame
August 2, 2009
By the Balloon Federation of America at the
National Balloon Museum, Indianola, Iowa



President Karl (seated with red tie) presiding at an annual plenary meeting of the FAI Commission International Aerostation



Karl in a basket about 1970



Karl working with plans



Karl in flight



Karl instructing about weather



Karl



Karl received the Federation Aeronatique Internationale's Commission International Aerostation Hall of Fame medal in 2000 at Mitchell, South Dakota



Tracy Barnes, Karl Stefan and Dodds Meddock founders of The Balloon Works balloon company

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Karl H. Stefan was born July 28, 1916 Omaha, Nebraska

As a balloonist and aeronautical engineer Karl has for more than 50 years, he has made contributions of significant value to aeronautics and ballooning in particular.

In 1950 Karl had duty in the Navy at the Aeronautical Structures Laboratory in Philadelphia. His wife Lucy from her student days at the University of Minnesota was acquainted with Donald Piccard. It so happened that Donald was living in the Philadelphia area and active with the Balloon Club of America which was a local club using surplus Navy gas balloons. So Karl found himself following Lucy into the local ballooning scene. There were frequent flights; the lifting gas was the manufactured stove gas from the city gas mains so costs were quite reasonable. Lucy did some flying there and Karl was a part of the activity, but his first balloon flight was not until 1956 with balloonist Tony Fairbanks; the man who flew the balloon in the movie "Eighty Days Around the World".

After retiring from the Navy in 1960, Karl went to work for the University of Minnesota Aeronautical Laboratories (Minneapolis) for the University of Minnesota as technical director of their wind tunnel laboratories where he again ran into Don Piccard now working for a nearby manufacturer of stratospheric plastic balloons. He and Don pursued the idea of starting a local balloon club to fly small one-person helium inflated plastic gas balloons, and they formed a club, The Plastic Balloon Club. It soon became apparent that the plastic gas balloon was not working out as a sport balloon, but about that time they heard about the release from secrecy of a propane fired, nylon fabric, hot air balloon which had been developed by Ed Yost under Navy Contract with Raven Industries of Sioux Falls SD. So the Minneapolis Club changed its name to "Aerostat Society" and switched their concept to the new hot air balloons.

At this same time, Tracy Barnes had been working in the Physics Dept of the University of Minnesota helping to manufacture polyethylene balloons that the Physics Dept used for upper atmosphere cosmic ray research. So Tracy had good knowledge of the principles of balloon manufacture, and upon hearing about the Navy development decided to build nylon propane fired hot air balloons, and fly them as an advertising business. The Aerostat Society bought one of Tracy's balloons.

In 1963 Karl switched employment from the University of Minnesota to General Mills Corporation, Advanced Science Division, initially working in atmospheric particle distribution analysis. However, at that time it so happened that General Mills as a developer of plastics for food packaging had got into the business of manufacturing and flying large polyethylene plastic balloons into the stratosphere with scientific payloads. Karl was soon managing a team of engineers and technicians in the design, manufacture, and operation of stratospheric balloon systems and associated instrumentation, as well as being very active with the sport hot-air ballooning.

Then in May of 1964, Tracy Barnes got the idea of trying for a balloon altitude record in a small polyethylene balloon. Karl assisted him in the planning. Tracy built an AA-3 balloon (about 600 cubic meters, 21,000 cubic feet) with a closed Styrofoam basket. Tracy himself was a lightweight so the system was very weight efficient. Karl chased, the flight was very successful, established an AA-3 altitude record at 38,650 feet which still stands today.

Around 1965, Karl left General Mills and went to work for the National Center for Atmospheric Research, Scientific Balloon Facility, in charge of Balloon research and development. His many activities included design and test of stratospheric balloon problems, thermal and aerodynamic analysis services for balloon borne packages, and supervision of major ballooning projects. These programs included Project Stratoscope, a joint effort of NASA, Princeton University, and the National Center for Atmospheric Research.

At the same time Karl continued his sport ballooning activity, and was contacted by Chauncey Dunn who wanted to become a balloonist. So Chauncey bought a Raven hot air balloon, and Karl became his instructor and collaborator in establishing some hot-air balloon altitude records. For their altitude attempts, they worked together collecting all the equipment needed, and when the good weather day came they laid out the balloon, and then tossed a coin to see who would fly first. That turned out to be Karl. He took off and got to 31,000 feet when his oxygen exhaust valve froze up. So he had to discontinue the flight with his record setting at 31,000 feet. A few days later when the weather was good again Chauncey flew, with a heated oxygen valve, and set a record, of about 33,000 ft. So we each got our name in the World Record Book.

In the 1970's Karl became the Chairman of the Events Committee for the Balloon Federation of America for the National Hot Air Balloon Championships. Karl, along with Tucker Comstock and Bill Meadows and others were instrumental in getting the early competition rules into operation.

In 1971 Karl established his own altitude world record piloting a hot air balloon. He received the FAI's highest honor, Montgolfier Diploma, in 1972 for the flight.

Around 1973 Tracy Barnes, Dodds Meddock and Karl decided to start a hot-air balloon factory, The Balloon Works. Tracy did the hands-on manufacturing, Karl did the engineering and FAA certification procedures, and Dodds handled the marketing. They had no capital but lots of determination, and by selling non-certified balloons, and doing advertising, they managed to survive. At one point when they thought they would run out of money, Chauncey Dunn placed the order for "Dream of Flight", and the advance payment kept the company going. This enabled them to get their standard air-worthiness certificate. After that, the company prospered.

About 1977 Karl decided that the wave of the future was gas airships for advertising applications. He teamed up with Frank Ryder and Ray Gallagher, and some oil entrepreneurs as the investors, to form U. S. Airships Inc in Tyler Texas. Frank went to Australia and purchased "Ardath", a small flyable airship which they used to get started in the business. We erected a hangar near Tyler TX, and rebuilt "Ardath", capital was insufficient and after a few flights it became apparent that the company would not succeed.

During this period Karl became an active member of the Balloon Federation of America. His interest in competition lead him to chair of the BFA Events Committee. In the late 1970s Karl continued his BFA activity, on the Events Committee, and then as Delegate to the CIA (Commission Internationale Aerostation, the ballooning branch of the Federation Aeronautique Internationale). Karl was the USA Delegate for a few years, then in 1985 was elected President of the CIA where he continued until 1995. After that Karl helped out as Chairman of the CIA Records Review Subcommittee.

In 1980 Karl went to work for "ILC Dover", doing engineering design for the large tethered aerostats operated by the U. S. Government to watch Cuba and to interdict infiltration from south of the border. There were also some far-out LTA concept studies. Since 1987 Karl has lived near Fort Collins, Colorado, doing some engineering consulting, and continuing sport ballooning activities.

In 1987 Stefan moved to Colorado and established his consulting company, Stefan LTA, Inc. He has written more than 14 technical papers on lighter-than-air subjects.

In November 1996, in recognition of his Naval Aviation and ballooning careers, the National Aeronautics Association awarded to Karl the title "Elder Statesman of Aviation" at a nice banquet in Washington DC.

Mr. Stefan holds licenses as instrument rated commercial pilot for single and multi- engine aircraft and rotorcraft, and for free balloons. He holds positions with the Federal Aviation Administration as a

Designated Engineering Representative with engineering approval authority for balloons. He is an active member of the Balloon Federation of America and continues to serve as chair for the CIA's Records Review subcommittee. He is currently a "President of Honor" of the CIA committee of the FAI.

NOTABLE EVENTS/ACHIEVEMENTS:

- University of Minnesota, MS in Mechanical Engineering, Aeronautical Engineering.
- Pilot, Airplanes & Helicopters; Research and Development Administrator.
- LTA Engineer for the National Center for Atmospheric Research
- Research and Development Engineer for the Balloon Works.
- R&D Engineer for The Tyler Airship Company
- R&D Engineer for ILC Dover LTA-Projects
- First Flight in Balloon was 1956 with Tony Fairbanks from Swarthmore
- 1961 First Flight with Tracey Barnes from Minneapolis
- 1962-63 Chief Judge of St. Paul Winter Carnival Balloon Races
- Montgolfier Award 1972 for flight June 9, 1971 from Longmont Co, where he established new World FAA Class Altitude