

**James A. Winker**  
**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**



In 1990, Jim is giving a lecture about EARTHWINDS RTW Project at New Delhi, India Balloon Mela. (Mela is a Sanskrit word meaning "gathering".)



Jim and other jury members at the first USSR International Balloon Championship at Rylysk, Russia in 1990.



Jim and his wife Marlene in the basket preparing for a trans-Alpine gas flight from Stechelberg, Switzerland in 2000.



Jim piloting the Goodyear blimp Columbia in 1975. (He has just under one hour in Goodyear Blimps and 20 airship hours total.)



Sept. 1990, "Winker Cup" competition at World Gas Balloon meet in Tyndall, South Dakota; 300 cubic meter "ultralight" balloon

James A. Winker was born in December of 1928 in Randall, Minnesota, fourth son of Lewis and Cecilia Winker.

### **SOME OF JIM'S KEY BALLOONING EXPERIENCES:**

- His earliest ballooning experience was as a crew member for the launch and recovery of Don Piccard's flight in a converted Japanese FUGO bombing balloon in February of 1947.
- He participated in the preparation, inflation, free flight and recovery of the first modern hot air balloon flight by inventor Ed Yost in Bruning, Nebraska October 22, 1960.
- Received his first "Free Balloon Pilot" certificate in July of 1962.
- His First solo flight (not under instruction) was in Led Zeppelin in May of 1970.
- Became a FAA Balloon Pilot Examiner in 1973-1981 and again 1984-1987.
- He piloted Raven's hot air blimp "Starship Enterprise" at its world debut in Lucerne, Switzerland in May of 1975.
- He flew as part of the opening ceremony at the Lake Placid Olympics in February of 1980.
- Originated design for modern sport gas balloons, now known as "Quick Fill".
- Retired from Raven Industries at the end of 1990 completing 35 years of working with balloons, including the development of the hot air balloon.

### **GENERAL BALLOONING EXPERIENCES:**

Jim Winker has competencies in the following aspects of ballooning: Management, Research and Development

Planning, Balloon design (scientific and sport balloons), Heavy lift balloons, Air launched balloon techniques, Remotely piloted airships, Balloon and airship pilot, Deployable aerodynamic deceleration and recovery systems, Digital and photographic imagery, and as Balloon historian.

### **EDUCATION:**

University of Minnesota, Minneapolis, MN: B.A. in Aeronautical Engineering in 1952, B.A. in Business Administration – 1952 and Short course - Aerodynamic Deceleration - 1965

USAF Extension Course Institute: Squadron Officer School – 1964, Air Weather Officer – 1965, Military Management – 1967, Microcomputer Programming – 1982 and World Class Manufacturing - 1990

## **EMPLOYMENT HISTORY:**

### **May 1951 to September 1954**

GENERAL MILLS, INC., Minneapolis, MN, Junior Engineer Associated with the development of internal pressure balloons, stratosphere balloon design and data analysis. He did extensive work with small tracer and carrier balloons for hurricane studies and developed particle sizing apparatus for biological agents.

### **October 1954 to September 1956**

U. S. AIR FORCE, Cambridge Research Center, Bedford, MA, Research and Development Officer Had charge of super pressure balloon development which resulted in small balloons capable of 8-day floating durations; air launched balloon techniques, particularly the launching of small pre-inflated balloons from large aircraft. Also, a system was developed for launching very long balloon load trains (3000 ft) which were carried compacted and then gradually extended while airborne. He has the current rank of Major, USAF (Retired).

### **October 1956 to June 1960**

RAVEN INDUSTRIES, INC., Senior Engineer responsible for stratosphere balloon design for balloons up to 9 million

cubic feet, for altitudes up to 150,000 ft, and payloads to 4000 lb. He developed miniature, low cost balloon systems for delivery of light loads at distances up to 1000 miles. He also directed development of parachutes for small rocket nose cone recovery and expendable cargo chutes.

### **June 1960 to November 1966**

RAVEN INDUSTRIES, INC., Chief Engineer for supervision of development, test, quality control, and support groups. He had continuing responsibility for balloon design, specifically for extending the capabilities of polyethylene balloons and bringing super pressure balloons to a practical stage. Development of hot air balloons for man-carrying and specialized applications. He worked on continuing development of special parachutes, including a hybrid parachute-hot air balloon. He also assisted with preparations and simulations for the flight Ed Yost made in the "Channel Champ" in April of 1963, which was the first hot air balloon flight across the English Channel. That one flight brought world-wide attention to the fact that the modern hot air balloon was a practical aircraft.

### **November 1966 to January 1970**

RAVEN INDUSTRIES, INC., Balloon Division, Manager responsible for the development of new products, improvement of existing products and processes, guidance and monitoring of the Manufacturing Department. Divisional product line included primarily film and fabric inflatable devices

such as balloons (stratosphere, global meteorological super pressure, heavy load transport, hot air and tethered types), inflatable ground structures and storage bladders. He also directed the effort for gaining FAA Type Certificate for hot air sport balloons.

### **February 1970 to July 1989**

RAVEN INDUSTRIES, INC., Applied Technology Division, Vice President responsible for the direction and coordination of all divisional activities, including manufacturing, sales, and engineering. Product line included all items from previous Balloon Division, plus specialty parachutes and industrial plastic film products.

### **August 1989 to January 1991**

RAVEN INDUSTRIES, INC., Sioux Falls, SD, Vice President. Special project to introduce the concepts of World Class Manufacturing, Total Quality Management, and Manufacturing Resource Planning to the company. He also laid the groundwork for the transformation process to implement those concepts.

### **February 1991 to Present**

President of REKWIN CO., Sioux Falls, SD, Consulting in the fields of:

- Technical, historical archives, especially for balloons and airships.
- Balloon systems design (high altitude, superpressure, tethered, air launched, and sport balloons).
- Parachute and decelerator systems.
- Inflatable fabric devices.
- Expert witness for balloon accidents.
- Lighter-than-air historical research

### **PATENTS: Jim Winker holds the following patents:**

Number	Name	Number	Name
2,865,583	Balloon Message Release Mechanism	3,270,987	Balloon Structure with Distrib. Excess Mat'l
2,917,254	Airborne Balloon Launching Device	3,302,906	Positive Destruction Device for Balloon
2,941,750	Long-Load Launching Device for Balloons*	3,331,573	RAVEN-PLUS Parachute
2,983,950	Atmospheric Powered Demand Ballaster	3,366,345	Air Launched Balloon System*
3,063,598	Ballast System	4,125,233	Tethered Aerodynamic Balloon w/Integral Fin
3,109,612	Taped Plastic Balloon	4,651,956	Deflation and Air Control System for Hot Air Balloons*

3,182,932	Simulated Variable Thickness Balloon	
3,226,060	Controlled Excess Material Balloon	* co-inventor

## **PUBLICATIONS:**

Jim has written approximately two dozen Technical Papers for scientific balloon symposia; over 25 presentations at sport balloon technical or safety seminars; contributor or advisor to approximately 10 books on the subject of balloons; scientific, sport or other, as well as numerous articles in technical or trade magazines regarding balloons.

## **ORGANIZATIONS:**

He belongs in the following organizations: American Institute of Aeronautics and Astronautics, Tau Beta Pi, Tau Omega, Balloon Federation of America and the British Balloon and Airship Club

## **HONORS:**

- He is listed in "Who's Who in Aviation and Aerospace", "American Men of Science"
- Received the Shields-Trauger Award for contributions to sport ballooning, 1978; the highest award given by the BFA
- Awarded Honorary Life Membership in Lighter-Than-Air Society, 1989
- Elected Associate Fellow of AIAA, 1993
- Received AIAA Otto C. Winzen Lifetime Achievement Award (Contributions to scientific ballooning), 1999