



*James W. Duff*

# DONALD WILLS DOUGLAS

*1892-1981*

BY ROBERT L. JOHNSON

**DONALD** WILLS DOUGLAS, aviation pioneer, founder of Douglas Aircraft Company, died on February 1, 1981, in Palm Springs, California. His leadership in the aviation/aerospace industry for more than fifty years contributed greatly to development of the world's air transport system and to the exploration of space.

Mr. Douglas established the company that carried his name in 1920, and he guided its growth to become one of America's largest aerospace firms. At the time of his death he was Honorary Chairman of the Board of Directors of McDonnell Douglas Corporation, formed with the merger of Douglas Aircraft and the McDonnell Company in 1967.

Born April 6, 1892, in Brooklyn, New York, he was the son of William E. and Dorothy Douglas. His father was a bank cashier. As a youth he attended the Trinity Chapel School in New York City, and entered the United States Naval Academy at Annapolis in 1909. His interest in aviation had been sparked when, as a boy of twelve, he read the first accounts of the Wright brothers' successful flights at Kitty Hawk. He saw Orville Wright demonstrate an aircraft for the U.S. Army Signal Corps in 1908. By 1911, when the U.S. Navy based its first three float-equipped aircraft on the Severn River at Annapolis, young Midshipman Douglas was building and flying model planes in his spare hours.

In 1912, determined that aviation would be his vocation, he resigned from the Naval Academy just a year short of graduation to

study aeronautical engineering at the Massachusetts Institute of Technology (MIT). He earned a B.S. degree in mechanical engineering (there was not yet an aeronautical degree) in 1914 and remained at MIT as an Assistant in Aeronautical Engineering. His assignment was to help build one of this country's first scientific wind tunnels.

"I think I can truly lay claim to being one of the very first aircraft engineers for the simple reason that up until that time there was no engineering," Mr. Douglas said more than fifty years later. "It was all done by judgment, mostly. If the airplane flew the judgment was good. If it didn't fly the judgment was bad."

In 1915 Mr. Douglas became a consultant to the Connecticut Aircraft Company, and then Chief Engineer for the Glenn L. Martin Company. After serving a year during World War I as Chief Civilian Aeronautical Engineer for the U.S. Signal Corps, he returned to Martin to design the Martin bomber. It was a giant-for-its-time twin-engine biplane that did much to expand the concept of military air power.

With these achievements behind him, Mr. Douglas decided to go into business for himself. He moved his family to California and opened his enterprise equipped only with visionary ideas, engineering and business acumen, a desk in the back of a barber shop, and some \$600 in assets.

His first project, in association with young sportsman David R. Davis, was an airplane designed to fly coast to coast over the United States, nonstop. That aircraft, the *Cloudster*, was the first of many Douglas engineering triumphs; it became the first airplane to take off with a useful load exceeding its own weight. Within months the U.S. Navy ordered torpedo bombers, drawing in part on the *Cloudster* design. Douglas Aircraft Company had completed its own take-off.

Global recognition of Douglas design excellence came early. In 1924 U.S. Army pilots flew specially built Douglas World Cruisers more than 27,500 miles in the first flight around the world. The feat demonstrated that air travel was, in fact, limitless-and affirmed the Douglas slogan, "First around the world."

The Douglas reputation for outstanding military aircraft, mail

planes, and flying boats grew as he assembled a design and production team that included many who gained fame in their own right; among them were John K. Northrop, James "Dutch" **Kin-**delberger, Clifford Garrett, Ted Conant, Harry Wetzel, Arthur E. Raymond, and Thomas V Jones.

In 1932 Mr. Douglas responded to a request from Transcontinental and Western Air for bids on design and production of a three-engine transport able to carry twelve passengers at speeds up to 145 miles per hour. Boldly he offered a twin-engine fourteen-passenger craft with a speed of 180 miles per hour. He won the contract, and the Douglas Commercial (DC) family of airliners was born.

The DC-1 prototype flew in July 1933. The improved DC-2 models delivered for airline service reduced transcontinental travel time to less than sixteen hours, and won for Douglas the 1935 Collier Trophy. The DC-3 story is a legend well known, with many hundreds still in service around the world. The four-engine DC-4 made transoceanic flight by land-based transports routine. The DC-6, DC-7, and jet-powered DC-8 were airliners that built the modern commercial air transport system. And today's DC-9 and DC-10 jetliners continue the tradition of design excellence, reliability, and technological leadership established by Donald Douglas.

Mr. Douglas threw himself and his company into the World War II aviation effort with typical vigor. His innovative B-19, laid down in 1937, was by far the largest land-based aircraft of the era. It provided knowledge that guided design of all the wartime heavy strategic bombers and expanded the concept of military air power. Six Douglas plants in the West and Midwest delivered nearly 30,000 planes- transports, bombers, and carrier-based attack aircraft- and Mr. Douglas presided over the War Production Council to coordinate efforts with other aircraft manufacturers.

After the war Mr. Douglas continued to press the advance of technology with improved commercial models, giant military transports, and jet- and rocket-powered research craft that explored supersonic flight.

He was a leader in developing guided missiles and, later, space vehicles. The Douglas series of Nike anti-aircraft missiles provided the foundation for what evolved into the Nation's present ballistic

missile defense technology program. The Thor intermediate-range ballistic missile of the 1950s became today's Delta space launch vehicle. The Douglas-designed S-IVB upper stage for the Saturn lunar launch vehicle became the *Skylab*, the world's first manned orbiting space station.

Donald Douglas's life coincided with the coming of the aviation- and now aerospace-era. He must be credited with much of that epic development. His eminence as a creative engineer and head of a major industrial organization was recognized by countless honors and awards, including the Collier Trophy, the Daniel Guggenheim Medal, the Elmer A. Sperry Award, the French Legion of Honor, the Franklin Medal for creative engineering in aeronautical science, and the Wright Brothers Memorial Trophy. He was elected to the National Academy of Engineering in 1967.

Donald Wills Douglas, indeed "one of the very first aircraft engineers," earned a lasting place in history as he helped to make it. His friends and colleagues knew him as a peerless engineer and entrepreneur who prized his reputation for integrity above all else. They knew him as a sportsman who loved his dogs and his sailing and his friendships with the same intensity that he gave to his professional life. And they will remember him, always, as simply "Doug," with gratitude for having known him.

