
RESEARCH LABORATORY

Biography of John Stack

John Stack is internationally regarded by aerospace historians as one of the world's most important aeronautical engineers with superlative technical expertise, leadership qualities and demonstrated management capabilities for critical national programs. As a pioneer and specialist in the field of high-speed transonic and supersonic aerodynamics he personally conceived, advocated, and conducted some of the productive aviation projects ever undertaken by the United States.

Stack graduated from the Massachusetts Institute of Technology with a degree in aeronautical engineering in 1928 and joined the Langley Memorial Aeronautical Laboratory of the National Advisory Committee for Aeronautics (NACA) in July 1928 as a junior aeronautical engineer working in the Variable Density Tunnel. The tunnel was the first major breakthrough for the laboratory and earned it a place alongside leading European countries in the field of aerodynamics. He soon developed an interest in the unexplored region of high-speed wind tunnels in the early 1930s and participated in the development of special facilities and acquisition of the first supersonic aerodynamic data and specialized flow visualization equipment which permitted researchers to visualize shock waves emanating from aircraft at supersonic speeds.

By 1939 he had already become a noted specialist and was put in charge of all the high-speed wind tunnels at Langley and in 1942 he became chief of a new Compressibility Research Division which focused on high-speed flight. In 1947 he was promoted to Assistant Director of the Langley Laboratory. Stack was a major driving force behind the conception and development of the Bell X-1 research airplane which was piloted by Chuck Yeager and exceeded the "sound barrier"; the use of slotted walls in wind tunnels to permit testing at transonic speeds; the highly successful North American X-15 rocket-powered hypersonic research airplane; the beginning of the U. S. National Supersonic Transport Program; and the development of the variable-sweep-wing concept and the General Dynamics F-111 airplane. He was also a strong supporter of international cooperative programs with European countries which resulted in revolutionary aircraft such as the Boeing AV-8 fighter flown by the U.S. Marine Corps. In recognition of his extraordinary achievements he was a recipient of the prestigious Collier Trophy (twice) and the Wright Brothers Memorial Trophy.

Stack retired in 1962 after serving a year as Director of Aeronautical Research for NASA Headquarters in Washington and then became vice-president and director of Republic Aviation.

John Stack died on June 18, 1972 when he was thrown by a horse at his farm.

JOHN STACK FATALLY INJURED

John Stack

John Stack, former Assistant Director, Langley Research Center, was fatally injured Sunday when he fell from a horse at his York County farm.

Stack retired in 1962 as Director of Aeronautical Research for NASA in Washington, a post he had held since 1961.

Upon his retirement he became Vice President of Engineering of the Republic Aircraft Corporation which later consolidated with what is now Fairchild Industries. He retired from Fairchild last year and since that time he had been serving Fairchild as an engineering consultant.

Stack was internationally famous in his field. He joined the Center staff on July 16, 1928 as a junior aeronautical engineer. He worked on the design and development of NASA's first high speed wind tunnels, some of which yielded supersonic data in the early '30s. In 1939 he was placed in charge of all high speed wind tunnels and high velocity airflow research at Langley. In 1942 he became Chief of the newly-established Compressibility Research Division and in 1947 he was elevated to Assistant Director.