NASA Facts

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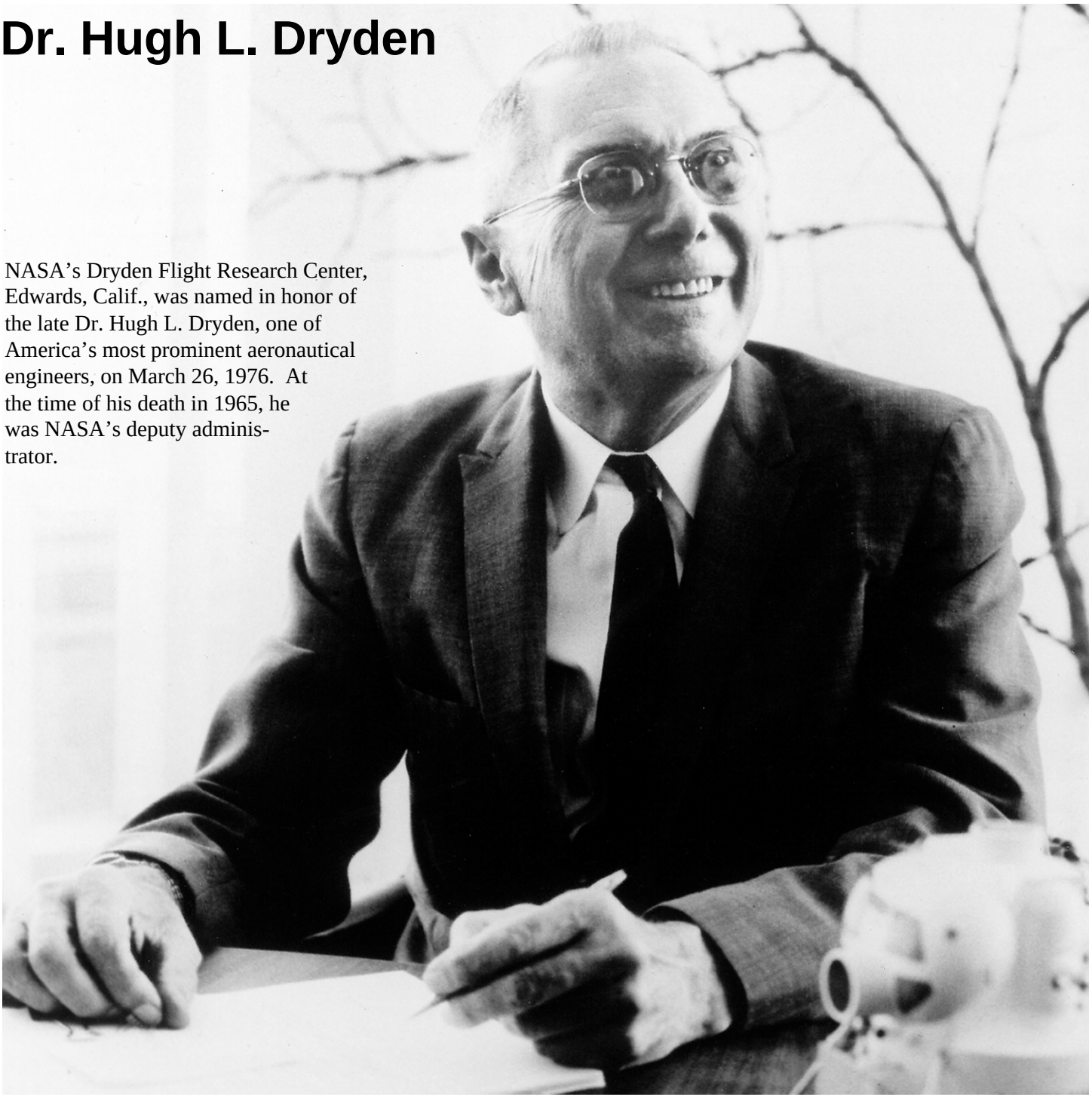
Dr. Hugh L. Dryden

NASA's Dryden Flight Research Center, Edwards, Calif., was named in honor of the late Dr. Hugh L. Dryden, one of America's most prominent aeronautical engineers, on March 26, 1976. At the time of his death in 1965, he was NASA's deputy administrator.



Dr. Hugh L. Dryden seated at desk. (NASA photo E-29389)

As Center Director David Scott looks on, Mrs. Hugh Dryden unveils the bust of her husband at the dedication of the Hugh L. Dryden Flight Research Center. (NASA photo ECN-5137)

The Center is NASA's premier site for aeronautical research and operates some of the most advanced aircraft in the world.

Dryden, born July 2, 1898, in the tiny town of Pocomoke City, Md., often boasted that "The airplane and I grew up together." And his early thoughts on aeronautics ran deep.

Dryden was 12 years old when he saw an aircraft for the first time. It was an Antoinette, a 40-mph monoplane with a 50-horsepower engine. The youth wasn't impressed with its performance. A few days later he wrote an essay for his English class at school entitled "The Advantages of an Airship over an Aeroplane," in which he compared the greater passenger and cargo payloads an airship has over winged machines for commerce, exploration, and recreation. His teacher thought the paper was "illogical" and graded it with an "F." But that didn't stop his thinking.

At the age of 14 he entered Johns Hopkins University, graduated with honors three years later, and earned a master's degree in 1918. His thesis was "Airplanes: An Introduction to the Physical Principles Embodied in Their Use."

By this time, Dryden had attracted the attention of Dr. Joseph S. Ames, who headed the university's department of physics and recommended Dryden for a staff job at the National Bureau of Standards. Ames called Dryden "the brightest young man...without exception" with whom he had ever worked.

Dryden soon was working in the Bureau's newly created wind tunnel section, while also completing his doctoral requirements. His thesis this time was "Air Forces on Circular Cylinders," describing drag and air flow over the engine. The research marked the beginning of a career devoted to the study of turbulence and boundary layer problems.

In 1920, Dryden was named to head the Bureau's Aerodynamics Section, where he studied air pressures on everything from fan and propeller blades to buildings. Some of his work in the mid-1920s investigated airfoil characteristics at air speeds at and just beyond the speed of sound. This was at a time when the fastest aircraft were flying at less than 300 mph. His work led to the design of low-turbulence wind tunnels, and his data—used by the National Advisory Committee for Aeronautics (NACA)—contributed to development of the laminar flow wings used on the famed P-51 Mustang fighter of World War II.

Dryden, who became a member of the NACA in 1931, saw much of his work at the Bureau switch to defense work as World War II loomed in the late 1930s. In 1940 he was named to head the fledgling guided missile section of the Office of Scientific Research and Development (OSRD). One of OSRD's products was the "Bat," the only American guided missile used in combat during the war, which was credited with sinking several enemy vessels. His work earned him the Presidential Certificate of Merit and saw him move more into management, where he participated in the framing of policies dealing with future research and development.

In 1946 Dryden became assistant director of the Bureau, followed in six months by his appointment as Associate Director. Within another six months, he was selected to succeed Dr. George W. Lewis as the NACA's Director of Aeronautical Research, and by 1949 he had become the first person to hold the new position of Director of the NACA. At this time the NACA had about 6,000 people in major facilities at the Ames, Lewis, and Langley sites, at Wallops Island, Va., and at what was then the High-Speed Flight Research Station at Muroc, Calif., now the Dryden Flight Research Center.

Dryden helped shape policy that led to development of the high-speed research program and its record-setting X-15 rocket aircraft. Dryden's leadership was evident in establishing vertical and short takeoff and landing aircraft programs, and he sought solutions to the problem of

atmospheric reentry for piloted spacecraft and ballistic missiles. Dryden was also instrumental in the development of the Unitary Wind Tunnel Plan, which saved millions of dollars by avoiding facility duplication.

On Oct. 1, 1958, plans came together in which the NACA became the nucleus of the new National Aeronautics and Space Administration (NASA), and Dryden became its first appointed deputy administrator.

During the early 1960s, Dryden became NASA's revered elder statesman of science and shared with the administrator the management of a multi-billion dollar program to develop space vehicles, advance space-related sciences, enable humans to travel out to the moon and back, and carry out extensive aeronautical research.

Dryden also served as chief U.S. negotiator for early historic cooperative agreements with the Soviet Union on the peaceful use of space.

He died of on cancer Dec. 2, 1965, just four and one-half years before Neil Armstrong, a former Flight Research Center research pilot, became the first person to step onto the moon's surface.

Dr. Hugh L. Dryden - portrait in 1958. (NASA photo E-4248)