

# The need for speed



Hughes Racer broke aviation records and its famous pilot left a legacy of aerospace achievement that lives on with Boeing

*By Henry T. Brownlee Jr.*

*"I want to be remembered for only one thing—my contribution to aviation."*

*— Howard Hughes*

**H**e was eccentric and controversial, and wealthy almost beyond measure, a maverick businessman and Hollywood movie producer who in his later years became a recluse.

But Howard Hughes Jr. also was passionate about aviation, an aerospace pioneer and record-setting pilot who left a legacy of companies and accomplishments that shaped the future of Boeing, and of airplanes that advanced aircraft design and flight and are a part of aviation history.

This month marks the 75th anniversary of a record-breaking performance by one of those airplanes, the H-1 Racer. On Sept. 13, 1935, Hughes piloted the H-1 at 352 mph (566 kph) over a measured speed course near Santa Ana, Calif., shattering the existing international record of 314 mph (505 kph).

It was the H-1 that gave birth to Hughes Aircraft Co., which was established that same year.

Boeing's satellite business in El Segundo, Calif., and its helicopter business in Mesa, Ariz., have their roots in the aviation company Hughes founded. But the connection between Boeing and Howard Hughes goes back even further.

Hughes was born in Houston in 1905, the son of a wealthy oil industrialist.

By 1931, the young Hughes was already a well-known motion picture producer and an emerging pilot with a passion for speed and an eye for accuracy and detail. He admired Charles Lindbergh and had started to make a name for himself as an aviator with a Boeing airplane, the 100A. He bought the biplane soon after making *Hell's Angels*, an epic film about World War I pilots.

The 100A, a commercial version of the Boeing F4B-1, was extensively modified for Hughes by the Douglas Aircraft Co. and Lockheed to make it more aerodynamic and faster for racing. But having set his sights on breaking the speed record for airplanes over a measured course, Hughes soon realized that to break the record he would need to develop an aircraft from scratch—an airplane designed specifically to be the fastest in the world.

He assembled a team to engineer and build the airplane. With strict oversight from Hughes, the team developed the Hughes Racer in just 18 months.

The 27-foot-long (8-meter-long) airplane, with a 700-horsepower (522-kilowatt) Pratt & Whitney engine, incorporated pioneering designs such as a close-fitting, bell-shaped engine cowling to reduce airframe drag and improve engine cooling, and retractable landing gear to reduce drag and increase speed and range.

These and other innovative designs enabled the Hughes H-1 Racer to easily break the speed record held by French pilot Raymonde Delmotte.

In January 1937, Hughes broke the transcontinental speed record in the H-1 by flying from Los Angeles to the Newark Airport in New Jersey in 7 hours 28 minutes. For that flight, Hughes had longer wings made for the H-1 to boost its lift and range.

Over the next decades, Hughes' passion for airplanes continued. Among the many airplanes he owned was a Boeing 307 Stratoliner. Meanwhile, Hughes Aircraft expanded and eventually included Hughes Helicopters and Hughes Space & Communications, which launched the first geosynchronous communications satellite, Syncom, in 1963. The Hughes Space & Communications division was acquired by General Motors in 1985.

The year before, in January 1984, McDonnell Douglas, now part of Boeing, had acquired Hughes Helicopters. At the time, the business had started producing a new attack helicopter for the U.S. Army at a recently opened facility in Mesa. That helicopter is known today as the AH-64 Apache.

In 2000, Boeing acquired Hughes Space & Communications from General Motors.

Hughes died in 1976. His Racer, which led to the formation of Hughes Aircraft, never flew again after setting the transcontinental speed record. It is on display today in the National Air and Space Museum in Washington, D.C. ■

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**PHOTOS: (Left)** Howard Hughes Jr. with the H-1 Racer. UNIVERSITY OF NEVADA, LAS VEGAS, LIBRARIES  
**(Inset)** Hughes with his Boeing 100A, which was streamlined for more speed. BOEING ARCHIVES