

This Day in Aviation

Important Dates in Aviation History

[Skip to content](#)

Search for:

Tag Archives: YOH-6A

27 February 1963

February 27, 2019



First flight of the Hughes YOHO-6A prototype, N9696F, 27 February 1963. (Hughes Tool



Company)

Raleigh Ellsworth Fletcher

27 February 1963: Hughes Tool Company, Aircraft Division, test pilots Raleigh Fletcher and James A. Vittitoe made the first flight of the prototype Model 369, serial number 13-0002. The helicopter received F.A.A. registration N9696F on 5 April 1963.



The Hughes Model 369 was built in response to a U.S. Army requirement for a Light Observation Helicopter (“L.O.H.”). It was designated YOHO-6A, and the first aircraft received U.S. Army serial number 62-4211. It competed with prototypes from Bell Helicopter Company (YOHO-4) and Fairchild-Hiller (YOHO-5). All three aircraft were powered by a lightweight Allison Engine Company turboshaft engine. The YOHO-6A won the three-way competition and was ordered into production as the OH-6A Cayuse. It was nicknamed “Loach,” an acronym of the initials, “L O H.”

Initially, the prototype had a tail boom with an airfoil-shaped cross section. Though this performed well in forward flight, it limited sideways flight to just 5 miles per hour. When replaced with a symmetrical cross section tail boom, sideways flight increased to 60 miles per hour (97 kilometers per hour).



The first prototype Hughes YOH-6A, N9696F, in final configuration. (Hughes Tool Company, Aircraft Division)

The YOH-6A was a two-place light helicopter, flown by a single pilot. It had a four-bladed, articulated main rotor which turned counter-clockwise, as seen from above. (The advancing blade is on the helicopter's right.) Stacks of thin stainless steel "straps" fastened the rotor blades to the mast and also allowed for flapping and feathering. Hydraulic dampers controlled lead-lag. Originally, there were blade cuffs around the main rotor blade roots in an attempt to reduce aerodynamic drag, but these were soon discarded. A two-bladed semi-rigid tail rotor was mounted on the left side of the tail boom. Seen from the left, the tail-rotor rotates counter-clockwise. (The advancing blade is on top.)



Interesting overhead photograph of a Hughes YOHO-6. Note the blade cuffs. (U.S. Army)



The YOHO-6A was powered by a T63-A-5 turboshaft engine (Allison Model 250-C10) mounted behind the cabin at a 45° angle. The engine was rated at 212 shaft horsepower at 52,142 r.p.m. (102% N1) and 693 °C. (1,279 °F.) turbine outlet temperature for maximum continuous power, and 250 shaft horsepower at 738 °C. (1,360 °F.), 5-minute limit, for takeoff. Production OH-6A helicopters used the slightly more powerful T63-A-5A (250-C10A) engine. The T63-A-5A is a 2-spool, reverse-flow, turboshaft engine with a 6-stage axial-flow, 1-stage centrifugal-flow compressor and 4-stage axial-flow turbine. 2 turbine stages (gas

generator) drive the compressor section, while the other 2 stages (power turbine) drive the engine's output shaft through a gear reduction section.



Hughes YOH-6A 62-4211 in its configuration during the three-way LOH competitive testing. (U.S. Army)

