

# Oldies & Oddities

FROM THE ATTIC TO THE ARCHIVES

## Blades of Glory

**SOME OF THE NAMES** the media bestowed on the XH-17 Flying Crane, one of the largest helicopters ever flown: massive four-legged insect, gigantic Fourth of July pinwheel, and mammoth water spider. The fuselage was 53 feet long; the craft stood 30 feet tall.

The first public flight of the helicopter was on October 23, 1952, at Hughes Airport in Culver City, California, and Gale Moore worried about his abilities as a test pilot. Because this was Howard Hughes' first rotary-wing venture, the media came out in full force that cloudy morning, with newsreel cameramen, photographers, and reporters. "I felt very conspicuous as I stepped out of my car," Moore recalled at an American Helicopter Society meeting in 1983, where XH-17 personnel reminisced about the project.

"I hoped this wouldn't be the day we made any big mistakes. Howard Hughes himself would be in the audience. I had to admit to a little bit of stage fright."

When the blade-tip jet engines on the helicopter fired up, flames shot from the ends of the rotor blades. "The whoosh-whoosh of the whirring blades sounded like hundreds of artillery shells in flight," the *Los Angeles Times* reported. "You could hear it seven or eight miles away," Moore said.

With Hughes watching his every move, Moore made a vertical ascent, hovered for about nine minutes, then flew forward, backward, and made full circles in both directions. To his relief, everything went as planned.

The XH-17 was born when the Air Force contracted with Kellett Aircraft to develop a massive helicopter to lift vehicles, artillery, and supplies across rivers, swamps, and mountains. Distinguished by its giant main rotor—each of the two blades was 5,000 pounds, 12 inches thick, and nearly six feet wide—the helicopter had a propulsion system that routed compressed air from two jet engines to the blade tips: there the air mixed with fuel and the mixture ignited to generate thrust. The resulting pinwheeling spun the giant rotor. "A 130-foot [diameter] rotor at the time was just inconceivable," the XH-17 project engineer Nick Stefano later wrote to fellow engineer Ray Prouty, who compiled an archive of letters, photos, and pilot reports on the project.

Kellett Aircraft, facing money woes, couldn't complete the project. In 1948 Hughes stepped in and bought the company for \$250,000. "I can remember most of us saying, 'Do something to get this Hughes guy out of the picture!'" Stefano said. Hughes had never built helicopters or mass-produced aircraft. He was known mainly for his flying boat, the H-4 Hercules, which had made its sole flight on November 2, 1947.

"All of a sudden we have this foisted upon us and we are now in the helicopter business," said Hughes engineer Jim Crabtree at the 1983 AHS meeting. The XH-17 would be the first of many helicopters built by Hughes' company,

culminating 30 years later with the AH-64 Apache.

Gale Moore had joined Los Angeles Airways in 1948 to fly Sikorsky S-51 helicopters; seeking a greater challenge, he went to work for Hughes and became the only pilot to fly the XH-17. On September 16, 1952, he had hovered the aircraft, technically its first flight. It rose only a foot, but when Moore slowly pulled collective pitch, the machine lurched into the air, almost uncontrollably. He lowered the pitch lever, then raised it again, all without calming the erratic movements, before settling on the ground with a solid thud. Flight test data revealed the controls were much more sensitive than those of the S-51. "The

flight was like riding a pogo stick in a sitting position—up, down, up, down," Moore said.

When Moore talked to a project engineer, he got an earful about the XH-17's blades, the fatigue life of which was "very short." A blade could shatter at any moment, a risk Moore took every time he sat at the controls.

By December 1955, after 10 hours of flight—the predicted life of the blades—the XH-17 quit flying. The Air Force lacked the funds to continue its development, so the machine was scrapped. During three years of testing, the helicopter had lifted a maximum weight of 10,284 pounds and achieved a top speed of 70 mph.

Moore made many more test flights of other aircraft, most of them lacking the drama of the XH-17. He died in 2011, at age 90.



**The tall landing gear struts theoretically enabled the XH-17 to carry Army tanks to remote sites, but low range and high fuel consumption grounded that mission.**

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