National Aeronautics and Space Administration

X-PRESS

ARMSTRONG FLIGHT RESEARCH CENTER

Edwards, California, December 2025

NASA X-59 Completes First Flight

NASA's X-59 quiet supersonic research aircraft took to the skies for the first time Tuesday, Oct. 28, 2025, departing from Lockheed Martin's Skunk Works facility in Palmdale, California, and arriving at NASA's Armstrong Flight Research Center in Edwards, California. The milestone marks a major step for NASA's Quesst mission and its goal of enabling quiet supersonic flight over land.

NASA/Lori Losey

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NASA’s X-59 Prepares for More Flight Testing

NASA/Genaro Vavuris

NASA’s X-59 has completed its first flight, and the team is preparing for flight tests from its new home at NASA’s Armstrong Flight Research Center in Edwards, California. The tests will assess how the aircraft handles and evaluate how its design shapes shock waves, which normally create a sonic boom in supersonic flight.

NASA’s Quesst mission aims to gather community response data to help set new standards for acceptable levels from commercial supersonic flight over land. The agency will fly the X-59 over several U.S. communities, collecting ground measurement and resident surveys to better understand people’s perception of the X-59’s sonic thump.

NASA’s X-43A Accelerates Hypersonic Flight

NASA/Carla Thomas

NASA took a major step toward redefining high-speed flight on Nov. 16, 2004. The X-43A, a small, experimental aircraft, proved that an engine drawing oxygen from the atmosphere could propel an aircraft to hypersonic speeds — greater than Mach 5, or five times the speed of sound.

During the flight over the Pacific Ocean west of California, the X-43A set the world speed record for a jet-powered aircraft, reaching Mach 9.6, or nearly 7,000 mph. The mission originated from NASA’s Armstrong Flight Research Center in Edwards, California. The X-43A flight showed future high-speed vehicles could have more airplane-like operations for increased affordability, flexibility, and safety.