

George Cooper

NASA Ames Hall of Fame

The popular conception of a test pilot is of a glamorous, romantic figure, composed of equal parts of right-stuff cool and devil-may-care bravado. In reality, though, test flying is a demanding and exacting task which requires not only the steel nerves and exceptional skill of the expert pilot, but also the analytical mind and insatiable curiosity of the dedicated engineer. In almost thirty years at Ames, George Cooper displayed all these qualities as he made invaluable contributions to aeronautical knowledge -- contributions whose impact continues long after his retirement from NASA.



After serving as a fighter pilot with the Army Air Force in World War II, Cooper became a NACA test pilot at Ames in 1945. He did extensive research in transonic performance with various aircraft, exploring the tricky and treacherous qualities of near-Mach 1 handling characteristics (and incidentally breaking the sound barrier almost routinely, notwithstanding the more storied exploits of Muroc rocket jockeys such as Chuck Yeager and Scott Crossfield!). Cooper also performed detailed tests developing design criteria for one of the most dangerous tasks faced by any aviator: carrier approach and landings. Using the F-94 fighter, he developed methods of in-flight thrust reversal to better control the aircraft's speed and flightpath, including its final approach, resulting in improved touchdown precision and safer landings.

Although nearly every parameter of an aircraft's performance can be tested, described and ultimately predicted with mathematical precision, one essential factor has always been difficult to isolate: the interface between the individual aircraft and the human being flying it. Cooper's extensive experience in the evaluation of aircraft handling qualities led him to formulate a ten-point scale with which pilots could precisely describe and rate their experience in actually flying an aircraft, making clear and concrete what was previously little more than subjective judgment and intuition. The Cooper Pilot Opinion Rating Scale, later revised to become the Cooper-Harper Handling Qualities Rating Scale, is one of Ames' most famous and lasting contributions to aeronautical science and is a standard recognized and used worldwide.

As a tireless and imaginative researcher in the best Ames tradition, Cooper looked wherever was needed to find the answers to the problems he faced as Ames' Chief Test Pilot. He conferred with engineers and scientists to develop and extend wind tunnel testing techniques and flight simulation capabilities, making Ames a world leader in these areas. Rather than contenting himself with simply flying and testing aircraft like most test pilots, Cooper became an internationally recognized authority on aircraft handling, safety, and the indispensable human element of aviation. His contributions to cockpit design, aircraft crew tasking and flight simulation have made the skies safer for both pilots and passengers.

Ever since its earliest days as a NACA center, Ames has been known for its hands-on approach to aeronautical research, development and problem-solving. Perhaps no individual better exemplifies that philosophy than George Cooper: a man who expanded the definition of a test pilot and pushed the envelope of his profession by breaking new ground in aeronautics.