Boeing, NASA Begin RASCAL Program Flight Qualification

The Boeing Company is moving ahead on an important rotorcraft research program that may significantly improve aircraft flight controls.

Recently, a specially modified Blackhawk helicopter began flight qualifications of a programmable, full-authority, high-bandwidth Research Flight Control System, developed by Boeing in Philadelphia. The new control system is part of the Rotorcraft Aircrew Systems Concepts Airborne Laboratory, called RASCAL, and is sponsored by the U.S. Army and administered and operated by NASA Ames Research Center.

Boeing research engineers have been working for a year with NASA Ames to integrate this system into the test aircraft and ground-based development facility that together serve as a system development laboratory. Boeing developed the system under a NASA/Army research and development contract from 1994 to 1997.

The new system will be used to test flight control software design systems that may generate significant reductions in advanced flight control development costs for current and future aircraft. Modification of the test aircraft, which completed its first flight on May 14, has taken nearly two years and includes installation of navigation and display systems and comprehensive telemetry instrumentation as well as the flight control system. The test aircraft will be involved in wide-ranging experiments covering flight mechanics, guidance, navigation, handling qualities, displays, acoustics and human-factor research. These systems ultimately might improve rotary- and fixed-wing aircraft operations, cost and safety for both military and civilian users.

The Boeing Company in Philadelphia designs, develops and produces military helicopters and tiltrotor aircraft. Its products include the CH-47SD Chinook, the AH-64D Apache Longbow fuselage, and, in partnership with Sikorsky and Bell, respectively, the RAH-66 Comanche and the V-22 Osprey.

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