New Comanche Empennage Will Improve Flight Performance

Boeing Sikorsky RAH-66 Comanche Prototype No. 1 will soon begin flight tests with a new empennage, or tail structure.

Boeing has completed fabrication of a newly designed tail, consisting of vertical and horizontal stabilizers and new vertical endplates on the horizontal structure, for the Comanche. The new tail structure is a reconfigurable unit that permits adjustments of tail components to validate and optimize a final tail design for production. Technicians at the Comanche Flight Test Center in West Palm Beach will install the improved empennage for flight tests scheduled for mid-December.

The new tails development is a pilot program to demonstrate the Comanche team's ability to meet stringent production cost and schedule requirements. It involved utilization of advanced digital virtual reality engineering design software that facilitated rapid fabrication and assembly of the composite and metal structure. Design changes, including the endplates on the horizontal stabilizer, have incorporated data-from test flights, computer modeling and wind tunnel simulations-that will improve the Comanche's flying qualities by increasing control response.

The tail assembly includes 262 parts that on average required fewer than 27 man-hours to design. Technicians completed final assembly in about 10 weeks, with virtually no problems, using lean manufacturing tools. Boeing completed the entire process, from preliminary design to delivery, in 10 months.

Charles Allen, Boeing Sikorsky Joint Program Office director, said, "Once validated for production, the new tail design will provide solid performance improvements without a significant weight penalty or degradation of Comanche's low-observable characteristics.

"The Boeing RAH-66 airframe, propulsion and dynamic component analysis and integration team, working with newly developed lean manufacturing techniques, completed the new tail's redesign and fabrication in record time," Allen added. "This is just one more example of how the entire Comanche First Team is dedicated to giving our Army customer a rotorcraft with production systems as advanced as its capabilities."

The RAH-66 Comanche, the U.S. Army's 21st century combat helicopter, is being developed by U.S. Army Aviation and a team of leading aerospace companies headed by Boeing and Sikorsky Aircraft Corp., a subsidiary of United Technologies Corp.

###

00-138

For further information:
Jack Satterfield
(610) 591-8399
john.r.satterfield@boeing.com
Bill Tuttle
(203) 386-3829
btuttle@sikorsky.com