New Apache Transmission Technology Offers More Power and Capability

An innovative transmission technology developed for rotorcraft applications including the Boeing (BA) AH-64D Apache Longbow helicopter has successfully completed 60 hours of operational testing.

The new design creates more power without increasing the size of the transmission and can be applied to a variety of helicopter drive systems and used for future Army helicopter upgrades and for new helicopters.

Under the program, sponsored by the U.S. Army's Applied Aviation Technology Directorate (AATD), a demonstration transmission will complete 400 hours of operation in a test stand to validate the new concepts. Tests are being conducted by Boeing and its key industry partner, Northstar Aerospace of Chicago, Ill.

"These tests will prove the product can fully utilize available engine power, leading to more efficient and more capable helicopters," said Greg Heath, senior Boeing engineer leading the technical development effort.

The new rotorcraft transmission uses smaller, lighter-weight "face" gears that split the torque -- or power -- sent to the drive shaft. Traditional helicopter transmissions use a single pathway to power the aircraft's rotor system. In the past increasing the power meant increasing the size of the transmission.

Boeing engineers are responsible for the design and development of the new technology while Northstar Aerospace provides manufacturing development, assembly and test facilities.

The U.S. government-industry team is managed through the Integrated Defense Advanced Systems (IDeAS), Boeing's Research and Development business unit.

Testing has already been successful at a variety of speeds and power levels. The team's success to date has followed months of individual component testing. Operational development testing will continue under the cooperative agreement between the AATD and Boeing through 2005.

Northstar Aerospace in Milton, Ontario, Canada, manufactured the face gear transmission to Boeing design requirements and delivered it to the Chicago test facility.

A unit of The Boeing Company, Boeing Integrated Defense Systems is one of the world's largest space and defense businesses. Headquartered in St. Louis, Boeing Integrated Defense Systems is a $30.5 billion business. It provides network-centric system solutions to its global military, government, and commercial customers. It is a leading provider of intelligence, surveillance and reconnaissance systems; the world's largest military aircraft manufacturer; the world's largest satellite manufacturer and a leading provider of space-based communications; the primary systems integrator for U.S. missile defense and the Department of Homeland Security; NASA's largest contractor; and a global leader in sustainment solutions and launch services.

###

For further information:
Doug Kinneard
The Boeing Company
(480) 891-2896
doug.kinneard@boeing.com