

Boeing Tests HALE Hydrogen Propulsion System Using Ford-Developed Engine



(St. Louis, October 24, 2007) -- The Boeing Company [NYSE: BA], using a Ford Motor Company-developed hydrogen engine, has successfully tested the hydrogen propulsion system of its High Altitude Long Endurance (HALE) unmanned aircraft.

"This test demonstrates the technical readiness of the hydrogen engine system and confirms the capability breakthrough in flight endurance and altitude that could be realized by a variety of military and commercial customers," said Darryl Davis, vice president and general manager, Boeing Advanced Precision Engagement and Mobility Systems.

During the test, the engine ran for nearly four days in a controlled chamber at Aurora Flight Sciences in Manassas, Va., including a total of

three days that simulated conditions at 65,000 feet. The propulsion system included a multi-stage turbocharged internal combustion engine and its associated subsystems. The Ford engine earned better than expected fuel economy while demonstrating complete airflow and torque control across the engine's operating range.

"This simulated flight allows us to showcase the capabilities of Ford's proprietary hydrogen engine technology and the durability of our four-cylinder engines," said Gerhard Schmidt, vice president, Ford Research and Advanced Engineering. "We are very pleased with the results. The gasoline version of this same engine can be found in our Ford Fusion and Escape Hybrid vehicles."

The Boeing HALE aircraft is designed to economically maintain persistent presence over a specific ground location from stratospheric altitudes, providing tremendous potential for surveillance and communications applications. The test marked a key step toward proving the essential technical elements are in place for full-scale development.

"This test could help convince potential customers that hydrogen-powered aircraft are viable in the near-term," said Boeing Advanced Systems President George Muellner. "This is a substantial step toward providing the persistent intelligence, surveillance and reconnaissance capabilities our customers desire."

Boeing, as HALE's system designer and integrator, is working closely with Aurora Flight Sciences and Ford to develop the aircraft's propulsion system.

HALE is designed to stay aloft for more than seven days and carry payloads weighing up to 2,000 pounds. Potential applications include battlefield persistent intelligence, surveillance and reconnaissance, border observation, port security and telecommunications. The long endurance autonomous aircraft will be a propeller-driven, lightweight structure with a high-aspect-ratio-wing.

Source : **Boeing**