Boeing Demonstrates New Technology for Moving Airplanes on the Ground

The Boeing Company [NYSE: BA] and Chorus Motors have demonstrated an exploratory technology that could lead to a more efficient way of moving airplanes when they are on the ground at airports.

Successful tests in June of an onboard electric motor attached to the nose wheel of a Boeing 767 have shown that it may be a viable way of powering airplanes to move in and around gates, largely eliminating the use of airport tow tugs and jet engines now serving this purpose, as well as reducing emissions.

"We are striving to help our aerospace customers operate more efficiently, cleanly and quietly at airports," said Jim Renton, a director of Technology Integration in Boeing Phantom Works, the company's advanced research and development unit. "Our testing has shown that onboard electric motors can be very useful in achieving that goal if packaging, weight and flight-related technical issues identified during these tests can be resolved."

"We believe onboard electric motors have a great many advantages," added Bob Carman, Chorus Motors' WheelTug™ program manager. "They could reduce the need for ground tugs and their associated costs, allow faster flight turnarounds and increased fuel efficiency per trip, and reduce airplane noise and emissions at airports, to name just a few advantages."

Phantom Works researchers, together with those from Chorus Motors, a developer of innovative electric motor technologies, have worked together this year to design, build and operate a prototype onboard electric drive system that may enable pilots of large airplanes to be in complete control of their airplanes from gate to gate.

In June, the Phantom Works/Chorus Motors team, in cooperation with Air Canada, installed an electric motor drive on an Air Canada 767 and conducted a series of successful tests. Air Canada pilots performed ground maneuvers on slopes and terrains typical of those at airports around the world, including driving in reverse from a gate and taxiing forward to a runway. Tests also were performed at ramp temperatures exceeding 120 degrees Fahrenheit and at loads of up to 94 percent of the maximum takeoff weight for the airplane.

"Powered nose wheels have very positive benefits and I am quite impressed with the potential of the electric motor technology," said Capt. Hugh Campbell, director of Pilot Qualifications at Air Canada, who participated in the testing with Air Canada's chief 767 pilot, Capt. Richard Burke.

Next steps involve working to successfully resolve the technical issues that surfaced during the tests in order to define a path for commercial system installation.

Boeing Phantom Works is the advanced R&D unit of The Boeing Company. As an element of Boeing Technology, it provides advanced system solutions and innovative, breakthrough technologies that reduce cycle time and cost while improving the quality and performance of aerospace products and services. In addition to its own development work, Phantom Works collaborates with universities, companies, and organizations around the globe to ensure it is finding the best technology solutions the world has to offer.
Chorus Motors plc (US OTC: CHOMF), a developer of proprietary electric motor technologies, is a subsidiary of Borealis Exploration Limited (US OTC: BOREF). The Chorus systems produce high torque at start-up speeds and can be used in applications in aircraft, automobiles, trucks, locomotives, and ships. A wholly-owned subsidiary of Chorus Motors plc, WheelTug plc, has been assigned rights for aerospace applications of the Chorus family of motor technologies. For more information, see www.chorusmotors.gi.
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