Boeing Studying Air-Launched Addition to Launch Vehicle Family

A new air-launch system under development by The Boeing Company [NYSE: BA] and Thiokol Propulsion could increase U.S. military tactical responsiveness and expand Boeing civil and commercial launch capabilities.

Designed as a possible launch system for the U.S. Air Force's proposed Space Maneuver Vehicle (SMV),*AirLaunch* would lift approximately 7,500 lb. (3,000 kg.) to low Earth orbit (LEO), with launch-on-demand features at competitive prices. SMV is a small, unpiloted reusable spacecraft designed to support a variety of military space missions ranging from satellite deployment to terrestrial and on-orbit support.

While the *AirLaunch* system is being developed primarily as a near-term, low-cost, launch-on-demand system for the military, "its additional capabilities would advance the Company's overall launch vehicle strategy," said Rick Stephens, vice president and general manager of Boeing Reusable Space Systems. " *AirLaunch* could be used to support the deployment and replenishment of LEO communications satellites, hypersonic research, remote sensing and technology development."

AirLaunch also will complement the Boeing launch vehicle family, which includes the Delta family of expendable launch vehicles, Sea Launch, and NASA's Space Shuttle, as well as programs that will develop from the joint NASA/Boeing X-37 program, Stephens added.

" *AirLaunch* leverages the Boeing Phantom Works ability to secure the best technologies from throughout our Company to meet customer requirements," said Ron Prosser, vice president of Advanced Space & Communications for the Boeing Phantom Works. "We feel *AirLaunch* could fulfill many of the new mission scenarios envisioned by Air Force Space Command and identified in its Long-Range Plan."

The *AirLaunch* system consists of two basic configurations. The first would support the military and would be capable of placing an SMV into LEO. The second configuration would be available for civil, commercial and military applications using a Conventional Payload Module.

Boeing defined its *AirLaunch* system during a two-phase study conducted during 1999, and keeping development and recurring costs to a minimum was a priority, according to Jim Rooney, AirLaunch program manager, Boeing Phantom Works.

As a strategic corporate partner with Boeing, Thiokol Propulsion would provide the*AirLaunch* solid rocket motors in a multi-stage configuration. Currently, Thiokol has existing solid rocket motors suitable for the first two stages and is working on a design that is well matched for the *AirLaunch* third stage.

"Thiokol supports the Boeing approach and execution strategies to provide near-term solutions for the Air Force," said Robert Crippen, Thiokol Propulsion president. "The *AirLaunch* system will revolutionize space transportation for both national and commercial needs by combining new low-risk technologies together with demonstrated legacy systems," he said.

A modified Boeing 747-400F will carry the*AirLaunch* vehicle to a predetermined launch altitude. During the launch sequence the vehicle's wing and tail assembly will provide the necessary lift and lateral stability until 747/launch vehicle separation is achieved. After ignition, the launch vehicle wing and tail assembly will be jettisoned.

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