Wings for X-37 Spaceplane Shipped to Palmdale Final Assembly Facility

The Boeing Company [NYSE:BA] announced today that it recently completed the composite wings for the X-37 reusable spaceplane at its Huntington Beach, Calif., facility and delivered them to the High Desert Assembly Integration & Test facility in Palmdale, Calif. The wings of this next-generation Reusable Launch Vehicle (RLV) technology demonstrator are now co-located with the fuselage, produced by the Boeing Phantom Works prototyping center in St. Louis.

"This is the type of significant milestone we get excited about," said Ron Prosser, vice president of Advanced Space & Communications for Boeing Phantom Works. "The delivery of the wings indicates we are on track and one step closer to getting an autonomous RLV demonstrator built, flying and demonstrating new technologies for making space transportation significantly safer, more reliable and more affordable than is possible today."

"The completion of the wings finishes one of the many complex tasks in building a Reuseable Launch Vehicle (RLV) technology demonstrator," said Jeff Sexton, NASA's X-37 program manager at Marshall Space Flight Center in Huntsville, Ala. "Advancing RLV technology from the research environment to the real world of manufacturing, assembly and flight testing comes with great challenges. The manufacture and assembly of the wings are no exception," he added. Marshall Space Flight Center's 2nd Generation RLV Program manages the NASA-wide Space Launch Initiative (SLI) which is developing cost effective and safety enhanced alternatives for accessing space. The X-37 program manager commented, "I am proud of the X-37 team and their commitment in clearing another hurdle. Many more challenges are ahead of us as we pursue the goals of the SLI program to demonstrate 2nd Generation RLV technologies. Accomplishments like this are a motivation to the entire SLI team."

The complex wings were produced by a Phantom Works composite development team at Huntington Beach using sophisticated, highly controlled machining and bonding processes. When attached to the 27.5 ft.-long X-37 fuselage, the wings will have a span of 15 feet.

The fuselage is constructed of Graphite Bismaleimide (GrBMI), which is a high temperature composite ideally suited for reusable vehicles returning from orbit. GrBMI operates at 450oF, 100F higher than the current aluminum structure of the Space Shuttle, allowing for a thinner and lighter thermal protection system. In addition, the fuselage is primarily bonded together to minimize weight.

"Ever since the low altitude flight dynamics of the X-37 were verified by last year's seven successful test flights of the sub-scale X-40A, we've been looking forward to the final assembly of major components," said, Kevin Neifert, director of Next Generation Launch Systems for Boeing. "A great team is at work here, and witnessing the main elements of the X-37 taking shape is very gratifying. The advances in technology and expertise that we have acquired are directly applicable to the development of next generation space vehicles. Additionally, X-37 has strong synergy with our work on NASA's Space Launch Initiative, a key program leading to the next generation of crewed, reusable launch systems."

During the final assembly process the wings will be mated to the fuselage this June, with completion of the X-37 targeted for late 2003. The first unpowered drop test from a NASA B-52 is slated for early 2004 at Edwards Air Force Base, Calif. NASA and Boeing continue to discuss plans for boosting X-37 into orbit.

The X-37 government team, led by the NASA Marshall Space Flight Center, Huntsville, Ala., also includes NASA's Ames Research Center, Mountain View, Calif.; Kennedy Space Center, Fla.; Goddard Space Flight Center, Greenbelt, Md.; Langley Research Center, Hampton, Va.; and Dryden Flight Research Center and the U.S. Air Force Flight Test Center, Edwards Air Force Base, Calif.

The Boeing Company is the largest aerospace company in the world and the United States' leading exporter. It is NASA's largest contractor and the largest manufacturer of commercial jetliners and military aircraft. The company's capabilities in aerospace also include rotorcraft, electronic and defense systems, missiles, rocket engines, launch vehicles, satellites, and advanced information and communication systems. The company has an extensive global reach with customers in 145 countries.

The Phantom Works advanced research and development division serves as the catalyst of innovation for the Boeing enterprise. By working together with all the business units, it provides the innovative, breakthrough technologies they seek to reduce the cycle time and cost while improving the quality and performance of their aerospace products and services.

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