Boeing Helps NASA Maintain Human Presence 220 Miles Above the Earth

TITUSVILLE, Fla., Nov. 12, 2008 -- Boeing [NYSE: BA] engineers played a key role in designing several new components of the International Space Station (ISS) that will transform the outpost from a three-bedroom, one-bath abode for three astronauts into a future five-bedroom, two-bath residence that can accommodate six.

Space Shuttle *Endeavour* now sits on Pad 39A at Kennedy Space Center, Fla., awaiting its launch to carry a seven-person crew and 7.5 tons of Boeing-processed cargo 220 miles above the Earth's surface for the complicated remodeling project.

"I'm extremely proud of Boeing's role on mission STS-126," said Brewster Shaw, vice president and general manager, Boeing Space Exploration. "Our employees have been working side-by-side with NASA to provide expertise and insight on the International Space Station and the space shuttle, as well as the work that went into processing hardware destined for space."

On this mission, *Endeavour* is operating new software to make it safer as it transports new hardware intended to make the ISS more comfortable.

The space shuttle's upgraded flight software -- referred to as OI-33 (Operational Increment 33) -- will provide enhanced survivability to the crew in the event of a scenario in which the shuttle has to abort launch and return to Earth. Boeing worked on a team with NASA and prime contractor United Space Alliance to develop and test the software upgrade.

Endeavour will launch with the heaviest Multi-Purpose Logistics Module (MPLM) payload to date. A container the size of a moving van houses more than 1,000 items for the ISS, including more than 400 provided by Boeing. New fixtures carried to the ISS on this mission will add two sleeping stations, some exercise equipment and another bathroom to enable the ISS to accommodate up to six astronauts.

Because of the heavy payload, the MPLM was redesigned by Thales Alenia Space to enable it to carry an extra 480 to 600 pounds. Boeing worked with Thales Alenia Space to reconfigure the module under its NASA Checkout, Assembly and Payload Processing Services contract.

Boeing engineers also supported the ISS's ability to expand by playing a key role on an industry team that found a temporary solution and a more permanent future fix for a damaged Solar Alpha Rotary Joint (SARJ) -- a rotary joint that turns the solar array wings so they can better track the sun and generate electrical power for the ISS. As the prime contractor to NASA for the ISS, Boeing also worked with the agency on spacewalk processes and procedures for carrying out the temporary repair to the SARJ during this mission. The repair includes removing bearing assemblies from the joint, cleaning the surface, applying a lubricant (Braycote grease) to the surface, and then installing new bearings.

"Our design, integration, and sustaining-engineering expertise on all the station's U.S. elements allows us to support our NASA customer in troubleshooting problems and finding innovative solutions," said Joy Bryant, ISS Program vice president and program manager for Boeing.

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