# Boeing-built Hardware to Provide Electrical Boost to International Space Station

With training from Boeing [NYSE: BA] engineers and help from two robotic arms, Space Shuttle Atlantis astronauts today will install a Boeing-built truss element that will provide an extra boost of power to the International Space Station (ISS).

Part of the space station's backbone, the Starboard 3 (S3) and 4 (S4) truss element's batteries and solar arrays will ensure continuous electrical power to the outpost, even when the station is eclipsed by the Earth's shadow.

"The S3 and S4 Boeing hardware will provide a much-needed boost in power as well as balance out the spacecraft when it gets attached to the starboard side of ISS," said Mike Raftery, Boeing Space Exploration ISS deputy program manager.

During the seven-hour installation, astronauts will carefully remove the hardware from Atlantis' payload bay and transfer it to the space station using the shuttle's robotic arm. Once captured by the station's arm, the astronauts will maneuver and attach S3 and S4 to the starboard, or right side, of the station. The crew will activate the truss element during an additional scheduled spacewalk.

The truss element is equipped with two solar arrays for collecting electrical power from the sun, a solar rotary joint to keep the arrays permanently pointed toward the sun and 12 batteries to power the station when it cannot receive sunlight for 35 minutes during its 92-minute circuit around the planet.

"At 35,678 pounds, the S3/S4 truss assembly is the largest space station cargo that the U.S. has flown to date. Each battery is as big as a large suitcase, and the solar arrays will provide a total operating power capability of about 20 kilowatts, equivalent to the power used by 16 typical U.S. homes at any given moment," said Raftery.

After this mission, the total ISS power output will be around 50-60 kilowatts, depending on attitude and the angle of the sun. The new arrays will contribute about half that power.

As NASA's prime contractor for the orbiting outpost, Boeing is responsible for the design, development, integration, testing and delivery of the U.S.-built elements of the ISS. The S3 and S4 truss element is the second starboard addition to the 11-segment integrated truss structure that eventually will span more than 300 feet to carry power, data and temperature control for the station's electronics.

"This mission is another step closer to completing the assembly of the International Space Station, and Boeing continues to play an important role in one of the most challenging engineering feats ever attempted in space," said Brewster Shaw, vice president and general manager for Boeing Space Exploration.

Besides carrying two additional Unpressurized Cargo Carrier Attach Systems, the S3 and S4 truss element is identical to the Boeing-built Port 3 and 4 truss element delivered to the space station last summer.

Space Shuttle Atlantis is scheduled to return to Kennedy Space Center, Fla., at 2:44 p.m. eastern on June 19, following its 11-day mission to the ISS.

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