

Key Space Station Hardware Is Enroute to Kennedy Space Center

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A key element of what will become the backbone of the orbiting International Space Station is on its way today to NASA's Kennedy Space Center, Fla., aboard the Super Guppy transport aircraft.

The center truss segment (called "S Zero") was assembled by Boeing Reusable Space Systems inside a five-story-high clean room in Huntington Beach that covers an area about the size of a football field. Technicians wrapped the 44- by 15-foot structure in plastic before loading it into a shipping container for the 2,500 mile flight from Los Alamitos Armed Forces Reserve Center to Florida.

The segment is the centerpiece of what will become a 10-element, girder-like integrated truss structure that will extend the length of a football field. In Spring 2001, astronauts will attach SO to the U.S. Destiny Laboratory of the orbiting Space Station. From each side of the center element, astronauts will attach other truss segments during the four years of Space Station assembly.

SO will weigh in at 30,800 pounds when the Canadian Mobile Transporter is installed on the girder-like structure. During Space Station assembly, Canada's Mobile Service System will move its 55-foot robotic arm and hand along tracks attached to the truss.

Wires and cables will snake through the integrated truss structure to carry energy and data to the Space Station's extremities. Solar panels that provide electrical energy for Space Station will be mounted on either end of the truss. In addition, the truss will house batteries, computers, radiators, antennas and gyroscopes. The gyroscopes, or control moment gyros, will maintain attitude and stability of the Space Station as it orbits approximately 240 miles above the Earth.

Assembly of Space Station began late last year. Completion of the world's first permanently inhabited, on-orbit laboratory is scheduled for 2004.

More than 100 Space Station elements will be joined during more than 40 flights by U.S. Space Shuttle and Russian rockets and spacecraft. The spacecraft and rockets will lift nearly 1 million pounds of structures, equipment and supplies into orbit.

When completed, Space Station will house a crew of up to seven in pressurized living and work modules with a pressurized volume roughly equivalent to a Boeing 747 jet liner. Space Station, which is already visible to the naked eye from Earth, will eventually measure 356 feet across and 290 feet long.

Boeing is the prime contractor to NASA for Space Station. Sixteen countries - including the 11 members of the European Space Agency -- are members of the Space Station team.

Researchers are developing experiments that will be conducted in such fields as biotechnology, combustion science, fluid physics, materials science, life sciences, engineering and technology development, and Earth sciences.

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Boeing Communications Expendable Launch Systems
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