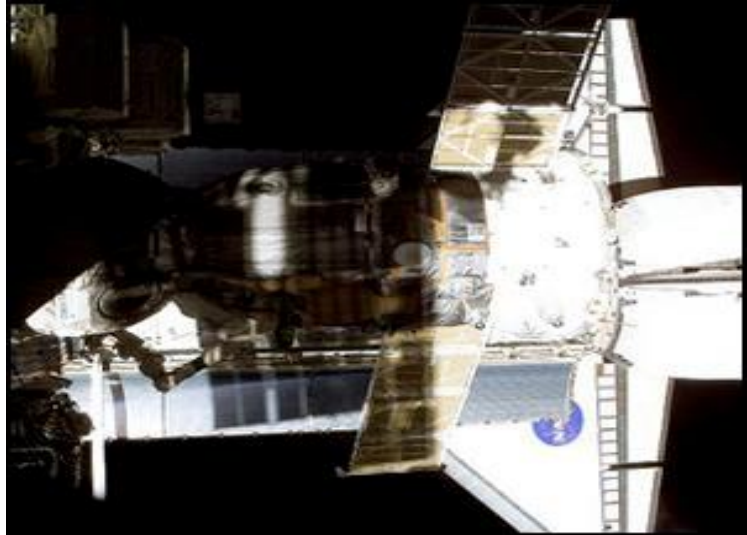


A construction job miles above the rest

Space shuttle astronauts use robot arm to attach 27,000-pound truss.



April 11, 2002 – Construction skills learned on earth are just as useful in outer space, as mission specialists today used a 58-ft. robotic arm from the Space Shuttle Atlantis to attach an expanded support structure to the International Space Station.

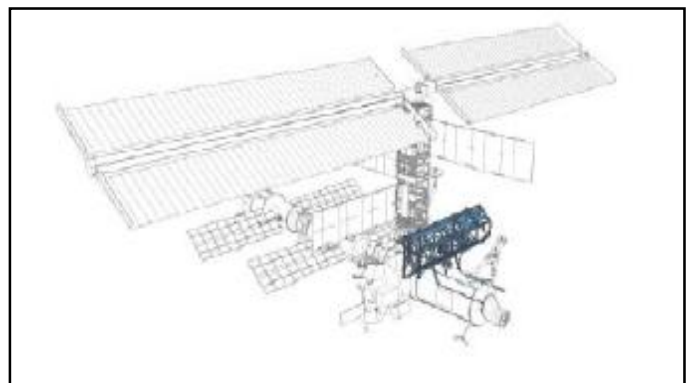
Astronauts Ellen Ochoa and Dan Bursch employed the robotic arm, called Canadarm2, to attach a truss, or support, to framework that will be used for expanded research projects. The temporary job of attaching the giant SO (S-Zero) Truss to the ISS, considered to be one of the most difficult yet, got under way earlier this morning and was completed in about four hours. Officials said.

Later in the day, Mission Specialists Steve Smith and Rex Walheim will conduct a spacewalk to begin the process of permanently attaching the truss to the station by bolting the two forward struts that will hold it in place. The two aft struts will be bolted during a second spacewalk on Saturday. Included in the tasks for today's spacewalk is the installation of an avionics tray onto the truss. This installation sets the stage for future station assembly and research.

The SO Truss is the centerpiece of the International Space Station's external framework and was delivered to the ISS on Space Shuttle Atlantis. Constructed of aluminum it measures 13.4 meters (44 feet) long by 4.6 meters (15 feet) wide and weighs 12,247 kilograms (27,000 pounds). The price tag for this part is \$600 million. It is the first of nine pieces that will make up the station's Integrated Truss Structure that will stretch 109 meters (356 feet).

The Integrated Truss Structure will provide attachment points for external payloads, electrical and cooling utility lines, and the mobile transporter rails.

During a third spacewalk, a space shuttle crew will set up the Mobile Transporter and install connectors that will be used to route power to the robotic arm. Built in California and provided by Boeing, the Mobile Transporter, much like a rail car, will provide a movable base for the station's Mobile Base Unit, the working platform for the Canadarm2, allowing it to transport payloads along the Integrated Truss Structure length making it the first railroad in space.



This line art highlights the SO truss and Mobile Transporter additions that will be made to the International Space Station.

Work of the fourth spacewalk will focus on preparing for upcoming assembly missions including the installation of floodlights and attaching handrails to the SO Truss.

Prior to the launch this mission Flight Engineer Dan Bursch stated "I am very much looking forward to the arrival of Atlantis and her crew. They promise to bring new care packages from home, fresh "smells" of the Earth and old friends."

When complete the ISS will have an end-to-end width, or wingspan, of 108.5 meters (356 feet), 88.4 meters (290 feet) long and will be 43.6 meters (143 feet) tall. It will have a mass of nearly 453.6 metric tons (1 million pounds) and will provide living space for up to seven astronauts and scientists. The pressurized living and working space aboard the completed station will be more than 1303 cubic meters (46,000 cubic feet), roughly equivalent to the passenger cabin volume of two 747 jetliners.

Launched April 8 the Atlantis will return to earth on April 19, at 11:46 a.m. CDT. The Atlantis crew includes Commander - Michael Bloomfield, Pilot - Stephen Frick, and Mission specialists Rex Walheim, Ellen Ochoa, Lee Morin, Jerry Ross, Steven Smith.

Information source: spaceflight.nasa.gov