

## International Space Station status report: SS07-29

*by Bend\_Weekly\_News\_Sources*

Two International Space Station cosmonauts stepped outside Wednesday for a 5-hour, 25-minute spacewalk, installing Service Module Debris Protection panels and rerouting a Global Positioning System antenna cable. Wearing Russian Orlan spacesuits, Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov began their spacewalk from the Russian Pirs airlock at 2:05 p.m. CDT. The spacewalk was scheduled to begin at 1:20 p.m., but was delayed due to time required to troubleshoot a communications problem. First, the cosmonauts moved to the Strela 2, one of the hand-operated, telescoping cranes at the base of Pirs. They attached an extension to the Strela boom, increasing its reach from 45 to 60 feet. With Kotov on the end of the extension, Yurchikhin extended the boom to a point over Pressurized Mating Adapter 3, or PMA-3, on the Unity connecting node. Once in place, Yurchikhin, with guidance from Kotov, maneuvered the Strela end effector to a grapple fixture on an adapter stowage rack. The adapter is attached to PMA-3 and held three bundles of 17 debris panels. The assembly is dubbed the "Christmas Tree." Once the Christmas Tree was attached to the Strela and released from PMA-3, Yurchikhin moved it and Kotov back to the small diameter of the Zvezda Module. Yurchikhin joined Kotov there, and together they secured it to a grapple fixture on Zvezda. Next, they left the debris panel task and moved aft onto Zvezda's large conical section. There they rerouted a cable for a Global Positioning System to be used for future rendezvous operations with the European Automated Transfer Vehicle. The ATV is an uncrewed cargo carrier with almost twice the capacity of the Progress cargo craft. It is scheduled to make its first launch later this year. Once that task was completed, the cosmonauts moved back to the Christmas Tree on the forward end of Zvezda, where they removed and opened one of the three bundles of debris panels. That bundle held five panels. The aluminum panels vary in size but are about an inch thick. They typically measure about 2 by 3 feet and weigh 15 to 20 pounds. Yurchikhin and Kotov installed the five panels on Zvezda's forward section, the area between Zvezda's large and small diameters. After the installation task, the spacewalkers moved back to Pirs and into the airlock. Hatch closure marking the end of the spacewalk was at 7:30 p.m. This was the first spacewalk for Yurchikhin and Kotov. On their second, scheduled for June 6, the remaining 12 debris panels will be installed on Zvezda. Additionally, the cosmonauts also will install a section of an Ethernet cable on the Zarya module and a Russian experiment called Biorisk on Pirs. The three bundles and their adapter were delivered by space shuttle Discovery during the STS-116 mission in December 2006 and attached to PMA-3 by spacewalkers Bob Curbeam and Sunita Williams. Williams, an Expedition 15 crew member, remained aboard the station as the intravehicular officer for Wednesday's spacewalk, advising and keeping the spacewalkers on schedule. Six debris panels were previously installed during an August 2002 spacewalk by Expedition 5 Commander Valery Korzun and Flight Engineer Peggy Whitson. Those panels were delivered to the station by space shuttle Endeavour during the STS-111 mission in June 2002.

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