

International Space Station status report: SS07-15

by Bend_Weekly_News_Sources

The Expedition 14 crew of the International Space Station continued preparations for the April arrival of a new station crew by boarding their Soyuz TMA-9 craft and taking a 24-minute flight from one station docking port to another. Flight Engineer Mikhail Tyurin guided the Soyuz away from the Earth-facing port of the station's Zarya module and docked it to the aft port of the Zvezda module. The move frees the Zarya port for the arrival of the Expedition 15 crew aboard the Soyuz TMA-10, scheduled to dock to the station on April 9. Tyurin undocked the Soyuz from Zarya at 5:30 p.m. CDT and redocked to the Zvezda port at 5:54 p.m. CDT as the station and the Soyuz flew 210 miles above the east coast of South America. Minutes later, hooks and latches engaged between the Soyuz' docking probe and Zvezda's docking port to attach the craft firmly to the station. During the time from undocking to redocking, the crew traveled about a third of the way around the world. To prepare for Thursday's undocking and relocation, Commander Michael Lopez-Alegria and flight engineers Tyurin and Sunita Williams shut down key station systems and configured the complex for autonomous operations in the unlikely event they would not be able to redock. Prior to undocking, Tyurin activated the Soyuz' backup battery as a precaution when the prime spacecraft battery indicated a slightly lower voltage reading. It was quickly determined that the voltage drop was due to the activation of some Soyuz systems, and the prime battery soon returned to its normal voltage output. Late Thursday into early Friday, the crew will open the hatch to the Soyuz, re-enter the station and reactivate systems for regular activity. Friday will be an off-duty day for the crew as they readjust their sleep cycles, which were changed to accommodate the Soyuz move. Further preparation for the Soyuz relocation included the undocking and discarding of the ISS Progress 23 cargo craft from the aft Zvezda port on Tuesday, March 27, making room for the Soyuz to redock. That activity went smoothly; the ISS Progress undocked at 1:11 p.m. CDT and re-entered Earth's atmosphere at 5:44 p.m. Additional work for the crew this week included a first for the Synchronized Position Hold, Engage, Reorient, Experimental Satellites (SPHERES) experiment. The experiment uses 8-inch diameter spherical satellites that fly within the station cabin. The satellites test the basics of formation flight and autonomous docking that could be used in future spacecraft. The battery-powered satellites use carbon dioxide to fuel 12 thrusters as they fly in the cabin. During a weekend "Saturday Science" session, Williams conducted a SPHERES experiment run. This was the first time three satellites flew together in tests. Investigators for the Massachusetts Institute of Technology, Cambridge, deemed the experiment highly successful. Back on Earth, Expedition 15 cosmonauts Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov, along with spaceflight participant Charles Simonyi, a U.S. businessman, prepared for their April 7 launch at the Baikonur Cosmodrome, Kazakhstan.

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