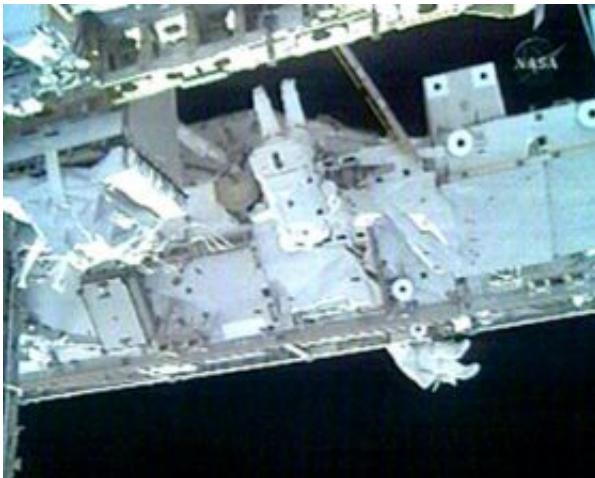


Saturday Spacewalk to Complete Harmony Hookup to Station

November 23 2007



Expedition 16 Commander Peggy Whitson (upper left) and Flight Engineer Dan Tani work outside the International Space Station during Tuesday's spacewalk. Image credit: NASA TV

A 6-hour, 30-minute spacewalk by International Space Station
Commander Peggy Whitson and Flight Engineer Dan Tani will continue the external outfitting of the Harmony node in its new position in front of the U.S laboratory Destiny.

The spacewalk is scheduled to begin at 6 a.m. EST Saturday from the U.S. airlock Quest. As was the case in the Nov. 20 spacewalk, Whitson, the lead spacewalker, will wear the suit with the red stripes while Tani will be in the suit with the barber-pole stripes.

After leaving the airlock and setting up tools and equipment, Whitson will remove, vent and stow an ammonia jumper, part of a temporary cooling loop. Removing it allows connection of the hookup of the permanent Loop B ammonia cooling loop on a second fluid tray on the station's exterior.

Tani meanwhile will configure tools, then remove two fluid caps to prepare for connection of that permanent cooling Loop B. Next he'll relocate an articulated portable foot restraint, which offers spacewalkers a place to secure their feet, from the U.S. laboratory Destiny's port side to the lower face of the lab's forward endcone.

As in the Nov. 20 spacewalk, much of this outing will be devoted to work with a fluid tray, this time Harmony's Loop B fluid tray. The 300-pound, 18.5-foot tray will be moved from its temporary position on the S0 truss, at the center of the station's main truss, to Destiny, atop the port avionics tray.

As they did with the Loop A tray Nov. 20, they'll use a kind of relay technique, one moving ahead and attaching tethers to be ready to receive the tray, then the other moving farther forward to take the next handoff.

Once they reach the installation point they'll bolt down the tray, then hook up its six fluid line connections, two at S0, two at the tray and two in between.

Whitson will move to the starboard side of Harmony. There she will remove launch restraints from latch petals of a common berthing mechanism. Those petals will initially attach the European Space Agency laboratory Columbus, enabling bolts to be driven to secure it to its permanent station home.

Tani, meanwhile, will remove one of the 22 covers of the starboard Solar

Alpha Rotary Joint and do an inspection similar to the one he did during his spacewalk during the STS-120 mission. He will take digital pictures of the joint and collect samples of any debris there.

He will return the cover to the airlock, leaving the joint available for a video survey by a camera on the station's robotic Canadarm2. That survey will be done after the STS-122 mission and will involve at least one full rotation of the suspect joint, which has experienced vibration and increased electrical current draw.

One or more get-ahead tasks may be done if time permits.

The two spacewalkers will do the standard cleanup process and then enter the airlock. The beginning of its repressurization will mark the official end of the spacewalk.

Source: NASA

Citation: Saturday Spacewalk to Complete Harmony Hookup to Station (2007, November 23)
retrieved 9 April 2024 from
<https://phys.org/news/2007-11-saturday-spacewalk-harmony-hookup-station.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--