

Spacewalking astronauts turn plumbers, hook hoses

February 14 2010, By MARCIA DUNN , AP Aerospace Writer



In this image provided by NASA the Tranquility module is transferred late Thursday evening Feb. 11, 2010 from its stowage position in space shuttle Endeavour's payload bay in the grasp of the station's Canadarm2 to position it on the port side of the Unity node of the International Space Station. Tranquility was locked in place with 16 remotely-controlled bolts. Earth's horizon and the blackness of space provide the backdrop for the scene. (AP Photo/NASA)

(AP) -- A pair of spacewalking astronauts hooked up plumbing on the newest room of the International Space Station, enabling it to come alive with power Sunday.

It was the second excursion in three days for Robert Behnken and Nicholas Patrick. They have one more spacewalk to finish installing the

Tranquility room and its attached [observation deck](#), the last major building blocks of the 11-year-old space station. Endeavour carried up the pieces last week.

With the throw of a few switches, Behnken and Patrick got ammonia coolant flowing through the newly routed Tranquility hoses. That, in turn, got Tranquility surging with power; most of its systems could not be turned on without a way to get rid of the heat generated by the equipment inside.

Mission Control passed up the good news about the temperature dropping in Tranquility and the power kicking in.

"We're so happy our feet are off the floor," said astronaut Stephen Robinson, who coordinated the spacewalk from inside the shuttle-station complex.

It was unwieldy work because of the extra-long hoses and potentially hazardous because of the ammonia.

In fact, frozen bits of ammonia shot out at Patrick as he undid a connection Saturday night. He said the ammonia was solid by the time it bounced off his visor and right glove, and he assured his colleagues there was no residue on him.

"It was about the kind of quantity of stuff that you would expect if you didn't empty the straw at the end of your drink bag," Patrick reported.

"Yeah - if you were drinking ammonia," Robinson said from inside. Patrick had a good laugh.

Mission Control said slight leakage was expected. As a precaution, Behnken checked Patrick's suit at the end of the plumbing job, but no

contamination was spotted. Nonetheless, the spacewalkers were instructed to wrap up everything an hour earlier than planned.

"Glad we got through it," Behnken said. "It would have been nice to do it without an ammonia spray."

The \$400 million-plus Tranquility and lookout - supplied by the European Space Agency - will hold life-support systems as well as exercise equipment and a toilet.

The domed lookout is essentially an enormous bay window that will provide breathtaking views of Earth. Its seven windows includes the largest ever flown in space: a round one 31 inches across.

While preparing the observation deck for its planned move to another side of Tranquility, the astronauts could not put on an insulating cover at the hatch. It simply did not fit; something interfered with the lock-down bars.

Late Saturday, the space station's commander, Jeffrey Williams, reported that bolts seemed to be causing the interference. He removed all eight bolts, saying the clearance would be tight but that the cover likely would fit.

The cover is needed to protect a seal and docking mechanisms from getting too cold when that port is unoccupied.

Mission Control had some good news for the six shuttle astronauts before the [spacewalk](#) got under way: They will get to spend an extra day at the orbiting outpost.

Mission managers on Saturday added a 14th day to the mission to give the crew time to move water-recycling equipment into Tranquility.

NASA wanted to see if repairs to the broken urine-processing machine worked before moving the equipment. They apparently did.

[Endeavour](#) is now scheduled to return to Earth on Feb. 21.

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