

Spacewalking astronauts make speedy station repairs (Update 2)

December 21 2013, by Kerry Sheridan



The SpaceX capsule Dragon attached to the Canada Arm at the the International Space Staion (ISS) on March 3, 2013

Two American astronauts made quick progress during a spacewalk outside the International Space Station on Saturday to replace a broken equipment cooling system, NASA said.

The risky outing was called for earlier this week after a cooling valve

failed on December 11, leaving NASA no other option but to replace an ammonia pump at the orbiting lab.

The problem caused a partial shutdown in the system that regulates equipment temperature at the space station, but did not pose any danger to the six-man crew, NASA said.

Saturday's spacewalk began at 7:01 am (1201 GMT) and ended at 12:29 (1729 GMT), an hour earlier than planned.

Astronauts made fast work of their key task for the day, disconnecting the old pump, and were also able to take on the extra task of removing the pump.

A second spacewalk is set for Monday to work on installing the new pump module.

"They will be replanning that spacewalk," a NASA commentator said, in light of the extra progress made on Saturday.

The venture outside the space station was the seventh for veteran spacewalker Rick Mastracchio, 53, and the first for rookie Mike Hopkins, 44.

Japanese astronaut Koichi Wakata operated the station's 50-foot (15-meter) robotic arm, hoisting Mastracchio and the refrigerator-sized ammonia pump module from one section of the lab to another.

With Mastracchio grasping the 780-pound (350-kilogram) module and unable to see where he was going, Wakata eased him into the right spot for stowing the pump.

The two US astronauts sported helmet cameras, and NASA TV showed

the operations in real-time from the perspective of the spacewalkers.

NASA also had to rig up some last-minute contingency gear inside the US-made spacesuits, which had not been used since a helmet water leak nearly drowned a European astronaut in July.

Now the helmets carry an extra absorption pad and a snorkel inside, in case there is a malfunction in the water pump system in the 35-year-old suits.

The investigation into the cause of the helmet leak is ongoing. Hopkins wore the suit that had the problem, though its inner water pump had been replaced.

NASA checked with the astronauts at regular intervals throughout the day to make sure they were not feeling any "squishy" sensation behind their necks, which might have indicated a water buildup and would cut short the spacewalk, space agency commentators said.

The astronauts reported dry conditions and no problems in their spacesuits or gloves, NASA said.

At one point, Mastracchio said his toes were getting cold, but they warmed again once he alerted mission control in Houston and heaters were activated in his spacesuit boots.

The astronauts trained for the emergency spacewalks by watching video of a previous outing to replace an ammonia pump in 2010.

A third spacewalk was initially projected for December 25, but it is possible the astronauts will be able to complete all their work Monday.

If not, the Christmas Day outing would be the first since 1974, when a

pair of NASA astronauts did work outside the Skylab space station.

Saturday's spacewalk was the 175th for maintenance and repair aboard the 15-year-old ISS, NASA said.

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