

## Spacewalk aborted after water leaks into astronaut's helmet (Update 5)

January 15 2016, by Marcia Dunn

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In this image made from video provided by NASA, crew members of the International Space Station inspect the spacesuit of NASA astronaut Timothy Kopra, left, after a spacewalk with British spaceman Timothy Peake was cut short after water leaked into Kopra's helmet. (NASA via AP)

Two astronauts aborted their spacewalk Friday and hurried back into the International Space Station after water leaked into one of the men's helmets in a scary repeat of a near-drowning 2½ years ago.

The trouble cropped up after the astronauts—including Britain's 1st spacewalker—successfully restored full power to the space station.

NASA astronaut Timothy Kopra took everyone by surprise when he reported a small water bubble and then a film of water inside his helmet. Mindful of another spacewalker's close call in 2013, Mission Control terminated the planned six-hour spacewalk at the four-hour mark. It turns out Kopra was wearing the same spacesuit involved in the earlier incident.

"So far, I'm OK," Kopra assured everyone. Later, he said the water bubble was 4 inches long and getting thicker.

"I'm doing good," he repeated on his way back inside.

Lead flight director Royce Renfrew, who called an early end to the spacewalk, stressed that the situation was not an emergency and insisted neither spacewalker was in danger. Indeed, Kopra took time to thank everyone for their help as the air lock was pressurized.

An hour later, Kopra was safely inside his orbiting home, along with Timothy Peake, who attracted his own headlines by becoming Britain's first spacewalker Friday.



In this image made from video provided by NASA, astronaut Scott Kelly, center background, photographs parts of Timothy Kopra's spacesuit inside the International Space Station after a spacewalk with British spaceman Timothy Peake, right, was cut short after water leaked into Kopra's helmet. (NASA via AP)

The astronauts waiting anxiously inside pulled off Kopra's helmet, then measured the water that had leaked, presumably from the suit's cooling system. That was the source of the leak last time. Space station commander Scott Kelly reported that he filled a syringe with about 15 cubic centimeters of water.

That's nothing, NASA officials pointed out, compared with the 1 to 1½ liters of water that escaped into Italian astronaut Luca Parmitano's helmet and suit in July 2013.

Kopra's suit was the same one Parmitano was wearing when his helmet flooded. This suit was refurbished following the 2013 incident. NASA said Kopra used the same suit for a spacewalk last month without any problem, and it had been used previously as well.

Despite the considerably smaller leak, the cap that Kopra wore on his head, under his helmet, was moist, as were other parts of his suit. As for Peake's suit, a quick look showed it to be dry save for a bit of moisture around the wrists.

Kopra and Peake completed their No. 1 job early on in the spacewalk. The pair quickly removed the voltage regulator that failed two months ago, slashing station power by one-eighth. The breakdown did not

disrupt work 250 miles up, but NASA wanted the power grid fixed as soon as possible in case something else failed.



This photo taken from video provided by NASA shows astronaut Scott Kelly, center, help gather equipment for U.S. astronaut Tim Kopra, left, and British astronaut Tim Peake, as they prepare for a space walk at the International Space Station on Friday, Jan. 15, 2016. Peake will become the first Briton to walk in space when he ventures out of the International Space Station (ISS) to help repair a broken power unit. (NASA via AP)

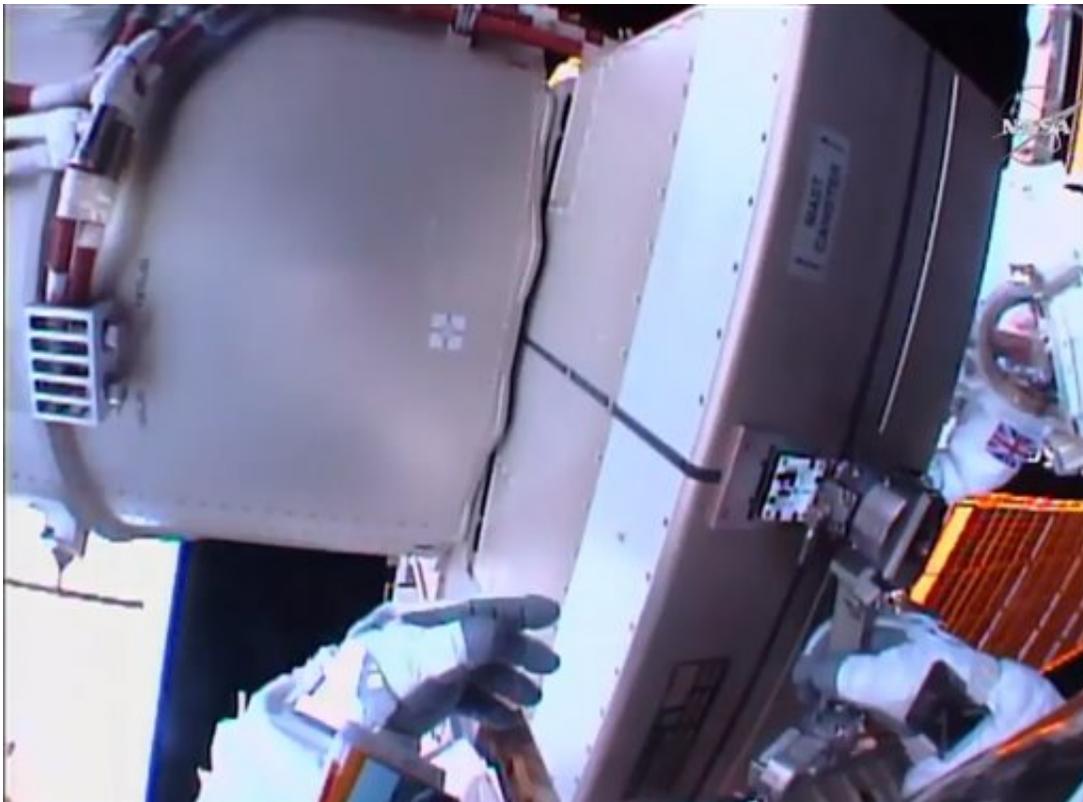
Working in darkness to avoid electrical shock from the solar power system, the astronauts quickly removed the bad unit and popped in a spare, both about the size of a 30-gallon aquarium. They had just 31 minutes to complete the job, the amount of nighttime on that particular swing around the world.

Following tests, Mission Control said the spare—dubbed Dusty for its 17-year tenure in orbit—appeared to be working properly.

Engineers suspect the original electronic unit suffered an internal electrical short. In the meantime, the station relied on the seven other power channels.

The action unfolded on the far reaches of the space station. The work site is about 200 feet from the astronauts' exit, about as far as spacewalkers safely can go.

Peake, in particular, received a bounty of well wishes—from space as well as Earth. He became the first spacewalker to wear the Union Jack on the shoulder of his suit.



In this frame grab from video provided by NASA-TV, British spaceman Timothy Peake, right, and U.S. astronaut Timothy Kopra foreground, work outside the International Space Station, Friday, Jan. 15, 2016. Kopra and Peake are working to restore full power to the International Space Station, after an

electronic box failed two months ago, reducing power at the station. (NASA-TV via AP)

"We're all watching, no pressure!" Former Beatle Paul McCartney said via Twitter. "Wishing you a happy stroll outdoors in the universe."

Earlier, as Peake floated out, space station commander Scott Kelly called, "Hey Tim, it's really cool seeing that Union Jack go outside. It's explored all over the world. Now it's explored space."

Replied Peake: "It's great to be wearing it, a huge privilege, a proud moment."

Peake, a helicopter pilot chosen by the European Space Agency, is Britain's first official astronaut.

A handful of previous spacewalkers held dual U.S.-English citizenship, but flew as Americans for NASA. The first British citizen to fly in space, chemist Helen Sharman, visited Russia's old Mir space station as part of a private competition in 1991.



In this frame grab from video provided by NASA-TV, U.S. astronaut Timothy Kopra emerges from the International Space Station, Friday, Jan. 15, 2016. Kopra and British spaceman Timothy Peake are working to restore full power to the International Space Station, after an electronic box failed two months ago, reducing power at the station. (NASA-TV via AP)

Peake and Kopra, a former Army aviator and attack helicopter platoon leader, rocketed into orbit exactly one month ago aboard a Russian spacecraft.

After Parmitano's leak, NASA added absorbent pads to the helmet and put in place other precautions for future spacewalks. Those pads and safety procedures came in handy Friday.

Parmitano's spacewalking partner that day, NASA astronaut Chris

Cassidy, was in Mission Control in Houston on Friday and offered assistance. Now chief of NASA's astronaut corps, Cassidy said at least everyone now has "a good grasp" of what to heed and what to do.

Engineers will scour the data in the weeks ahead to figure out what happened. Unlike last time, NASA did not immediately call for a halt to non-emergency spacewalks.

Parmitano was at the European Astronaut Center in Cologne, Germany, during Friday's spacewalk, answering questions about spacewalking. He had to cut the session short—"for good reasons."

"Happy to see @astro\_timpeake and @astro\_tim safe inside," Parmitano said via Twitter. "This is how I measure success: 1)crew-safe 2)main objective-completed."

**More information:** NASA:

[www.nasa.gov/mission\\_pages/station/main/index.html](http://www.nasa.gov/mission_pages/station/main/index.html)

European Space Agency: [m.esa.int/ESA](http://m.esa.int/ESA)

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