

# Video: Space repairs in 360 degrees

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Scientist, engineer, test subject and tradesperson—astronauts in orbit wear many different hats. In this 360° timelapse, ESA astronaut Matthias Maurer works to repair a faulty valve behind EXPRESS-Rack 3.

Water On-Off Valve 8 (WOOV-8), along with WOOV-6 and WOOV-7, determines whether the cooling [water](#) of Europe's Columbus module flows through, or bypasses, the heat exchange system that transfers [waste heat](#) to downstream cooling circuits outside the International Space Station. The valve has been a problem child for ground teams and astronauts for the past few years and was first replaced during a complicated operation in 2013.

It was last replaced by ESA astronaut Thomas Pesquet in October 2021, but continued issues led Matthias to try out a reserve [valve](#) to see if an unplanned conversion was possible. The operation was successfully completed on the real WOOV-8 in December 2021, and all involved breathed a sigh of relief.

Performing maintenance and repair tasks in weightlessness is especially difficult as [astronauts](#) have the added challenge of trying to hold themselves in position while turning a screw or securing a hatch. Watch Matthias carefully fold down the rack, set-up lighting and complete the task as you explore his workspace in 360°.

Matthias was launched to the International Space Station for his Cosmic Kiss mission on 11 November 2021. He will spend approximately six months living and working in orbit, supporting over 35 European and many more international experiments on board.

Provided by European Space Agency

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