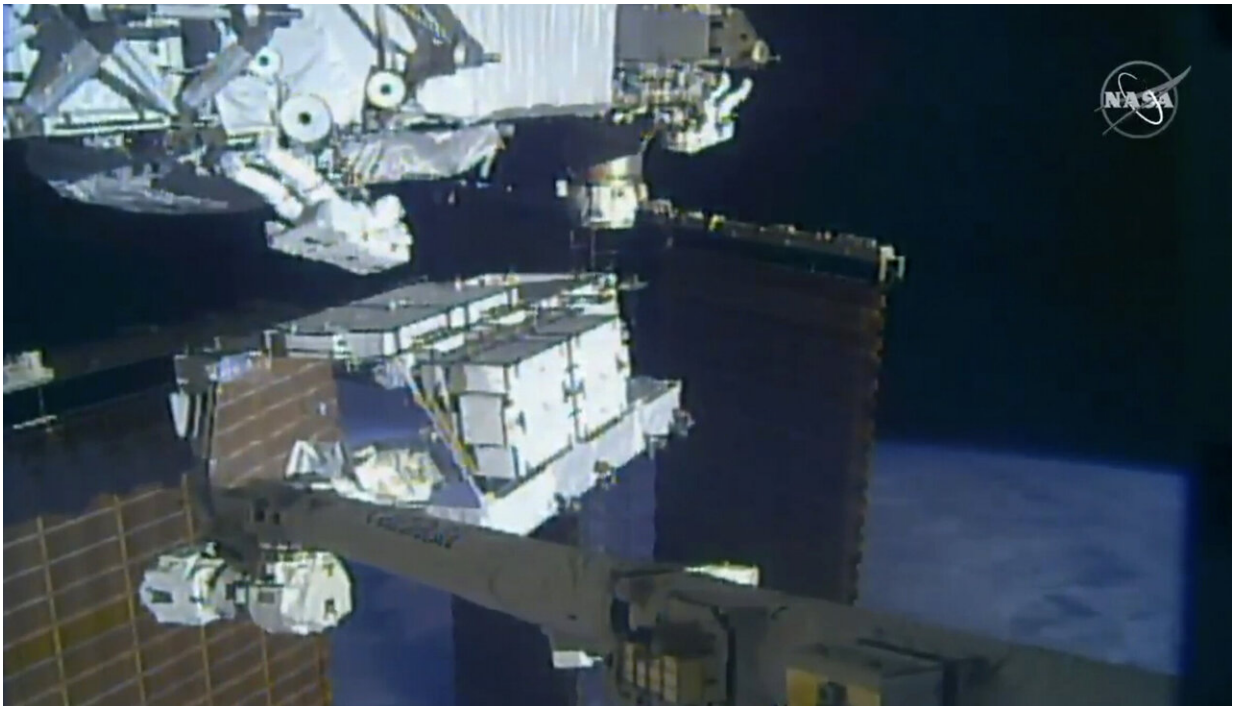


Astronauts replace old batteries in 1st of 5 spacewalks

October 6 2019, by Marcia Dunn



In this image made from video provided by NASA, NASA astronauts Christina Koch and Andrew Morgan work outside the International Space Station, Sunday, Oct. 6 2019. The astronauts kicked off the first of five spacewalks to replace old batteries at the International Space Station on Sunday. (NASA via AP)

Astronauts hustled through the first of five spacewalks to replace old batteries at the International Space Station on Sunday.

Christina Koch and Andrew Morgan removed three old batteries and installed two new ones delivered just a week ago, getting a jump on future work. These new lithium-ion batteries are so powerful that only one is needed for every two old ones.

"Awesome work today. We have made great progress," Mission Control radioed. Koch replied: "It has been a wonderful day ... we look forward to the rest of the series."

Koch and Morgan will venture back out Friday for more battery work 250 miles (400 kilometers) up.

The 400-pound (180-kilogram) batteries—half the size of a refrigerator—are part of the space station's solar power network. Astronauts have been upgrading them since 2017 and are now more than halfway done. The old ones are 10 years old; the new ones are expected to last until the end of the space station's life, providing vital power on the night side of the Earth.

These latest battery swaps are especially difficult given the extreme location on the station's sprawling frame. It's too far for the 58-foot (17-meter) robot arm to reach, forcing astronauts to lug the batteries back and forth themselves. That's why so many spacewalks are needed this time to replace 12 old nickel-hydrogen batteries with six new lithium-ion versions.

Koch and Morgan took turns holding each battery as they made their way, inchworm style, along the structure. The batteries were so bulky that it blocked the spacewalkers' views of one another, prompting constant updates. "I am right next to you," Koch said at one point. "I have the battery," Morgan replied. Then Koch had the battery, and so it went until the job was complete.

They ended up plugging in two new batteries, one more than anticipated, and removing an extra old one.

The seven-hour spacewalk ended on another high note, at least for Koch. As she headed back inside, Mission Control gave her a National Football League update: "Good news, Eagles are ahead 14-0 in the second quarter." She replied, "Go birds!" The Philadelphia Eagles routed the New York Jets, 31-6.

NASA plans to wrap up the five battery spacewalks this month, followed by a Russian spacewalk. Then five more U.S.-Italian spacewalks will be conducted in November and December to fix a key science instrument. NASA is calling it a "spacewalk bonanza."

This unusual crush of spacewalks will feature the first all-female spacewalk—by Koch and Jessica Meir—later this month.

Koch is two-thirds of the way through a more than 300-day mission. It will be the longest single spaceflight by a woman.

© 2019 The Associated Press. All rights reserved.

Citation: Astronauts replace old batteries in 1st of 5 spacewalks (2019, October 6) retrieved 3 May 2024 from <https://phys.org/news/2019-10-astronauts-batteries-1st-spacewalks.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>
--