

## Last shuttle spacewalkers make history above Earth

May 27 2011, By MARCIA DUNN, AP Aerospace Writer



In this image from NASA television astronauts Mike Fincke, left, and Greg Chamitoff, make their way along the P3 Truss on the International Space Station as they make their way back to the quest airlock wrapping up the fourth spacewalk Friday morning May 27, 2011. This is the final spacewalk to be performed by shuttle crew astronauts. All future spacewalks \_ including one during the final shuttle voyage this summer \_ will be performed by full-time space station residents. (AP Photo/NASA)

NASA completed its part in the construction of the International Space Station on Friday, with the final spacewalkers in the 30-year shuttle program attaching an extension boom.

"Twelve years of building and 15 countries and now it's the Parthenon in the sky and hopefully the doorstep to our future," spacewalker Gregory



Chamitoff before heading back inside. "So congratulations everybody on assembly complete."

Chamitoff said it was fitting for space shuttle Endeavour to be present at the end of space station construction since it was there for the first assembly mission in December 1998.

It was the fourth spacewalk in a week for the Endeavour astronauts, who are headed back to Earth in just a few days to end NASA's next-to-last shuttle flight. One last flight in July will bring up supplies.

No other significant U.S. components are due to fly to the space station, which still has a decade of life ahead. That was the job of the space shuttles - to haul up the big building blocks as well as loads of smaller items - and now they're retiring. The last room - a storage closet - was attached earlier this year.

While NASA's role in space station construction is over, the Russian Space Agency plans to add at least one more chamber in another year or two, a job that will require multiple spacewalks. The Russians also will continue to provide rides to and from the orbiting lab for U.S. astronauts until private companies in America are able to take over the job.

Chamitoff and his spacewalking partner, Mike Fincke, teamed up with robot arm operator Gregory Johnson to add one last finishing touch.

"Assembly complete. Amazing," Chamitoff said once the 50-foot boom was latched securely in place. "Boy, this is a big space station," he marveled several minutes later.

Later, flight director Derek Hassmann noted there's still a lot of work ahead to operate the outpost and keep it staffed. The station can accommodate six full-time residents; their main task is to conduct



scientific experiments and help researchers understand what is needed for longer expeditions, such as going to Mars.

This was the 164th spacewalk by shuttle astronauts; the first was performed back in 1983. The bulk - 110 - were for the International Space Station, and 23 involved the Hubble Space Telescope.

All future spacewalks will be performed by full-time space station residents

Another milestone was achieved Friday: 1,000 hours of spacewalking at the orbiting outpost.

Before Friday morning, astronauts had logged 995 hours outside for space station assembly and maintenance. Fincke and Chamitoff hit the 1,000-hour mark five hours into their 7 1/2-hour spacewalk, the 159th by all countries to build the station and keep it humming.

The space station's newly attached boom was used by shuttle Endeavour's astronauts Thursday to survey their ship for micrometeorite damage. NASA expects to finish reviewing the 3-D images Friday. If everything looks good, managers will clear Endeavour for next week's trip home.

The boom will remain permanently at the space station and assist with future repairs, especially in hard-to-reach areas. Fincke and Chamitoff put an attachment on one end of the pole for the space station's 58-foot robot arm - which would stretch 108 feet when grasping the boom - and disconnected the no-longer-needed laser sensors at its tip.

Besides the boom, Endeavour delivered a \$2 billion particle physics detector that was placed on the station last week.



Endeavour, docked at the space station through this weekend, is making its last flight before being retired to a museum in California. Atlantis will close out the shuttle program in July.

"Beautiful Endeavour," Fincke called out as the spacewalk got under way. "She's a great ship."

"Looks like she belongs right there," Chamitoff agreed.

The spacewalkers also savored the views 220 miles below.

"Most beautiful planet in the solar system - wow," Fincke said.

Late Friday night, Fincke will surpass the U.S. record of 377 days in space. He spent six months living on the space station - twice. This is his first shuttle trip; he previously rode Russian Soyuz rockets into orbit.

Endeavour and its crew of six will leave the space station late Sunday night. Landing is set for the pre-dawn hours of Wednesday during a rare touchdown in darkness.

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