

Spacewalk No. 2: Astronauts doing more Hubble work (Update)

May 15 2009, By MARCIA DUNN, AP Aerospace Writer



In this photo provided Thursday, May 14, 2009, by NASA shows astronaut Andrew Feustel, mission specialist, performing work on the Hubble Space Telescope as the first of five STS-125 spacewalks kicks off a week's work on the orbiting observatory. The shuttle is perched on the end of the Canadian-built remote manipulator system. Feustel, teamed with astronaut John Grunsfeld, not pictured, will join the veteran spacewalker on two of the remaining four sessions of extravehicular activity later in the mission. (AP Photo/NASA)

(AP) -- Atlantis' astronauts headed out for another spacewalk Friday, this time to give the Hubble Space Telescope some new, badly needed gyroscopes and batteries.

Replacing Hubble's <u>gyroscopes</u> is the top priority for this final repair mission to the 19-year-old observatory. The gyroscopes are part of the telescope pointing system, and half of the old ones are broken.



The two spacewalkers - Michael Massimino and Michael Good ventured out as the shuttle and anchored telescope sailed 350 miles above the Atlantic Ocean.

"It is a beautiful day outside," Massimino said. "Anybody home?" he joked.

He had a brief fright when his communication system fouled up. For a minute or two, no one could not hear him. "That was scary," said one of the <u>astronauts</u> inside when the problem cleared up. "A little bit," Massimino replied.

Space is particularly littered in this orbit, and Atlantis and its crew face a greater than usual risk of being slammed by a piece of junk. As a precaution, NASA has a rescue shuttle on standby, ready to launch in just three days if necessary.

It was the second <u>spacewalk</u> in as many days for the Atlantis astronauts. On Thursday, another two-man team installed a powerful new camera and a computer data unit, after struggling with a stubborn bolt. NASA hoped for an easier, less stressful spacewalk Friday.

In all, five spacewalks are planned so that the observatory - beloved by astronomers and many others for its breathtaking views of the universe - is at its apex while living out its remaining years.

Massimino, a returning Hubble mechanic who is over 6 feet tall, was going to squeeze himself into Hubble to replace the six gyroscopes. Despite the tight fit, NASA expected the work to be relatively straightforward; two gyroscopes are bundled together, for a total of three compact, 24-pound boxes.

These gyroscopes were installed 10 years ago. Three no longer work, and



two others have been acting up. That left one perfect gyro, but it has seen a lot of use.

Hubble's old batteries, original 20-year-old parts, had been used even longer. The hefty, nickel hydrogen batteries coming out were built before the telescope was launched in 1990.

The astronauts planned to put in three new batteries - they come three to a pack - and the final three early next week. Each pack is about the size of a big TV set.

Massimino, who worked on Hubble during the last visit in 2002, is known among the Twittering crowd as Astro-Mike. He's been sending down tweets during spare moments since Monday's launch, but said before the flight that his spacewalks would be off limits for texting.

NASA hopes to get another five to 10 years of use out of Hubble, once the Atlantis astronauts plug in all the new equipment. They also will take a crack at fixing two broken science instruments this weekend.

The mission cost NASA more than \$1 billion, one-tenth of what has been spent on Hubble over the decades.

On the Net:

NASA: http://www.nasa.gov/mission-pages/hubble/main/index.html

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