

Astronauts inspect gouge on space shuttle's belly

May 21 2011, By MARCIA DUNN , AP Aerospace Writer



This undated image made available by NASA on Friday, May 20, 2011 shows a damaged thermal tile on the space shuttle Endeavour's underbelly. The crew is planning to use a laser-tipped boom early Saturday, May 21, 2011 to inspect the gouge which is about the size of a deck of cards. (AP Photo/NASA)

(AP) -- Space shuttle Endeavour's astronauts took a close, detailed look at a small gash in the belly of their ship Saturday, to ensure their safety when they return to Earth in 1 1/2 weeks.

NASA ordered the inspection during the next-to-last [shuttle flight](#), even though managers said there was no reason to be alarmed by the damage generated by Monday's [liftoff](#).

The 3-D survey - normally not needed on a shuttle's underside - was carried out just a few hours before an unprecedented VIP call to the orbiting shuttle-station complex.

Pope Benedict XVI was set to make the first papal call to space, phoning the 12 [astronauts](#) from the Vatican. Two Italians are on board: one is a member of the shuttle Endeavour crew, while the other is close to ending a five-month stay aboard the International Space Station.

Working from inside, the astronauts used the shuttle [robot arm](#) and an extension boom, tipped with lasers and cameras, to hone in on the damage to the thermal tiles. The combined instruments stretched 100 feet and hovered 7 feet from the damage.

The gouge - spanning two tiles - measures just 3.2 inches by 2.5 inches. It's the depth that [flight controllers](#) hoped to ascertain with Saturday's survey, to make certain no repairs were needed. The images were beamed down to Mission Control for analysis; the entire inspection lasted an hour.

Space station cameras actually detected several areas of damage on Endeavour's underside, right before the shuttle docked to the [International Space Station](#). Only one spot posed concern, between the main landing gear door and the [external fuel tank](#) door.

Similar damage was seen on a flight by Endeavour in 2007. That gash turned out to be just an inch deep, and no repair was necessary.

By coincidence, that 2007 mission was commanded by the identical twin brother of Mark Kelly, the astronaut in charge of Endeavour's present flight. Kelly is married to Rep. Gabrielle Giffords, who received a skull implant this past week in Houston. She was shot in the head in January during a political event in Tucson, Ariz.

[NASA](#) established the shuttle safety checks following the 2003 Columbia disaster. A hole in the left wing led to Columbia's destruction during re-entry. All seven astronauts were killed.

Endeavour is making its final voyage before being retired to a museum in Los Angeles.

Still ahead for Kelly and his crew are three more spacewalks, the next one on Sunday. On the fourth and final spacewalk of the mission Friday, the astronauts will attach the inspection boom used Saturday to the outside of the space station. Its laser sensors will no longer function, but the pole itself could prove useful for possible repair work.

Landing is scheduled for June 1.

The 30-year shuttle program will end in July with the launch of Atlantis.

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