

# Discovery leaves space station; next stop is Earth

April 18 2010, By MARCIA DUNN , AP Aerospace Writer

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In this image provided by NASA the Space shuttle Discovery docked with the International Space Station is seen with the ammonia tank assembly and the cargo carrier module stowed in its payload bay as they pass over Europe early Friday morning April 16, 2010. Discovery is due to depart the space station Saturday. Landing in Florida is scheduled for Monday morning. (AP Photo/NASA)

(AP) -- Discovery and its crew left the International Space Station on Saturday and aimed for a homecoming in two days to wrap up one of the last missions of NASA's storied shuttle program.

The space station residents were "really, really sad" to see their friends go. "But it's time," said Oleg Kotov, the station's Russian skipper.

"We enjoyed every minute of it," [shuttle](#) commander Alan Poindexter said as Discovery backed away. "Thanks for the great hospitality."

Discovery undocked as the two spacecraft soared nearly 220 miles above New Guinea. Poindexter and his crew will spend Sunday getting their ship ready for re-entry. Landing is scheduled for Monday morning.

A few hours earlier, the seven shuttle fliers and six station inhabitants wrapped one another in bear hugs before sealing the hatches between their spacecraft. The crews' matching knit shirts created a jumble of turquoise and maroon.

It may be a long time before so many people are together again in space. Only three shuttle flights remain, each with a crew of six. That's one less person than usual to allow more room for cargo, and will result in 12 people orbiting together, instead of 13.

Four of the 13 on this mission were women, a world record. The crowd included eight Americans, three Russians and two Japanese.

Unlike previous shuttle departures, there was no live, continuous TV from Discovery and therefore only a few limited still-shot views of the nearly completed space station. Following the April 5 launch, Discovery's main antenna failed, resulting in a near picture blackout, at least on the shuttle side.

There were plenty of breathtaking shots of the shuttle, at least, beamed down from the space station.

"We loved having you here," the station's Timothy (TJ) Creamer called out. His Japanese crewmate, Soichi Noguchi, urged the shuttle astronauts to wave from 660 feet away. "You guys look awesome," Noguchi said. He wished them "sayonara" as well as "adios." Goodbyes also echoed

back and forth in Russian: "do svidaniya."

Because of the antenna breakdown, the shuttle [astronauts](#) had to move up the ship's inspection so all the images could be transmitted to Mission Control from the space station. The survey was conducted Friday; normally, it's carried out after the shuttle departs.

Flight director Richard Jones said no signs of worrisome damage from space junk had cropped up so far, and he expected the shuttle to be cleared for re-entry.

Discovery left behind nearly 8 tons of cargo and equipment, including a new tank full of ammonia coolant. The tank was successfully installed over the course of three spacewalks, but stiff bolts made the work more strenuous than anticipated.

The space travelers and ground controllers also had to deal with a stuck valve in another part of the cooling system during the 10 days of linked flight, as well as a misaligned connector that delayed the removal of a cargo carrier from the space station.

The nitrogen pressure valve is still jammed, though space station managers said they can live with the problem for now. But if flight controllers cannot open the valve by remote control, a spacewalk will be needed in the coming weeks or months to replace the entire nitrogen tank assembly.

As for the antenna breakdown, Mission Control sent up massive files of information through the space station before Saturday morning's undocking. That way, flight controllers won't have to read all that aloud to the shuttle crew in the time that remains.

Discovery is hauling back more than 3 tons of trash and old space station

equipment. The cargo carrier that's anchored in the payload bay will return to the orbiting outpost in five months to serve as a permanent storage shed.

Atlantis is next up on NASA's dwindling shuttle flight lineup. Liftoff is set for May 14. Discovery, meanwhile, is set to make the final space shuttle mission in September.

Jones acknowledged the impending shuttle shutdown is "running through peoples' minds." But he noted: "We're working really hard to make sure that the mission in front of us right now is the most important thing. ... There's still a very critical portion of this mission that is left to go."

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