

STS-121 MCC Status Report #01

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2 p.m. CDT, Tuesday, July 4, 2006
Mission Control Center, Houston, Texas

On the nation's 230th birthday, Discovery rocketed into the Florida sky this afternoon, returning the shuttle fleet to space after almost a year.

The first human spacecraft to launch on an Independence Day holiday, Discovery has begun a journey to resupply and service the International Space Station. Commander Steve Lindsey, Pilot Mark Kelly and Mission Specialists Mike Fossum, Lisa Nowak, Stephanie Wilson, Piers Sellers and Thomas Reiter, a European Space Agency astronaut, lifted off at 1:38 p.m. CDT. The launch followed a flawless countdown.

During the next 12 days, Discovery's crew will demonstrate techniques for inspecting and protecting the shuttle's thermal protection system, restore the station to a three-person crew for the first time since May 2003, and replace critical hardware needed for future station assembly. The crew is planned to conduct two spacewalks during the mission. If supplies allow, managers may extend Discovery's flight by an additional day, a day that will be used by the crew to conduct a third spacewalk.

A system of new and upgraded ground-based cameras, radar and airborne cameras aboard high altitude aircraft documented Discovery's launch. That imagery, along with data to be gathered from in-flight inspections, will be used to ensure Discovery's heat shield is in good condition. The in-flight inspections will be performed by the crew using the shuttle's robotic arm, an extension boom and laser system as well as photography to be taken from the station of a back flip the shuttle will perform as it approaches for docking.

Moments after main engine cutoff, less than nine minutes after liftoff, Fossum and Wilson used handheld video and digital still cameras to document the external tank after it separated from the shuttle. That imagery, as well as imagery gathered by cameras in the shuttle's umbilical well where the tank was connected, will be transmitted to the ground for review.

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As Discovery lifted off, the International Space Station was 220 miles above the southern Pacific Ocean, south of Tasmania. Aboard the outpost, Expedition 13 Commander Pavel Vinogradov and Flight Engineer and NASA Science Officer Jeff Williams watched the launch via a television transmission from Mission Control. Discovery is set to dock to the complex at about 9:51 a.m. CDT July 6.

The shuttle crew will test Discovery's robot arm tomorrow and then use it to grasp a 50-foot long boom extension, called the Orbiter Boom Sensor System. That boom holds the laser system and TV cameras they will use to inspect the shuttle's wings and heat shield.

During the two spacewalks, Sellers and Fossum will test the capability of the boom extension to be used as a work platform from which repairs could be performed to the shuttle heat shield. They also will repair a cable system on the station's rail car, a system that will be a base for the station's robotic arm for future assembly work. If the mission is extended by a day, the third spacewalk will be used to test techniques under development for repair of the reinforced carbon-carbon that makes up the heat shield on the shuttle wing edges.

Carried inside the Leonardo multi-purpose logistics module in Discovery's cargo bay and elsewhere on the shuttle, about 14 tons of hardware and supplies is on its way to the space station. Discovery's crew begins an eight-hour sleep period at 7:38 p.m. CDT. The astronauts will awaken at 3:38 a.m. CDT Wednesday to begin their first full day in orbit.

The next STS-121 status report will be issued shortly after crew wakeup, or earlier if events warrant.

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Jacques :-)

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