National Aeronautics and Space Administration

NASA Facts

Mission STS-121

During the STS-121 mission to the International Space Station, the Space Shuttle Discovery crew will continue to test new equipment and procedures that increase shuttle safety.

STS-121, the second mission in the Return to Flight sequence, will carry on improvements that debuted during last year's STS-114 mission and build upon those tests.

Discovery's astronauts will deliver more supplies and cargo for future station expansion. One crew member will stay behind after the mission is complete. European Space Agency astronaut Thomas Reiter will work with the station crew under a contract between ESA and the Russian Federal Space Agency.

This will be the first three-person crew since the Expedition 6 crew returned to Earth on May 4, 2003. Without the shuttle to ferry equipment to the station after the Space Shuttle Columbia accident, only two people could be supported onboard until the necessary provisions were in place.

Discovery will carry NASA's Italian-built multi-purpose logistics module, known as Leonardo. This pressurized cargo compartment will contain more than two tons of equipment and supplies. This will be the fourth trip to the station for Leonardo, the first of three such Italian-built compartments. Unneeded station equipment and supplies will be moved to Leonardo before it is moved from the station and put back into Discovery's cargo bay for return to Earth.

Steve Lindsey, an Air Force colonel, will command Discovery. He is making his fourth spaceflight, and second as commander. The pilot will be Navy Cmdr. Mark Kelly, making his second flight.

Other crew members, in addition to Reiter, will be Mission Specialists Mike Fossum, Stephanie Wilson, Piers Sellers and Navy Cmdr. Lisa Nowak. This will be the first spaceflight for Fossum, Wilson and Nowak. Sellers is making his second spaceflight.

Mission Information

Launch: No earlier than May 2006

Orbiter: Discovery (OV-103)

Mission Number: Shuttle flight No. 115 – Discovery flight No. 32

Launch Window: Five minutes

Launch Pad: 39B

Mission Duration: 12 days

Landing Site: KSC

Inclination/Altitude: 51.6 degrees/ 140 nautical miles

Primary Payload: 18th station flight (ULF-1.1)

Three spacewalks are scheduled for Sellers and Fossum on the fifth, seventh and ninth days of the mission. Sellers and Fossum will test the 50-foot robotic arm boom extension as a work platform and test techniques for inspecting and repairing the reinforced carbon-carbon segments that protect the shuttle's nose cone and wing leading edges.

The spacewalkers also will install spare parts for future use and replace the trailing umbilical system reel assembly for the station's mobile transporter, a rail car that travels along the station's truss. The cable on the nadir, or Earth-facing side of the transporter, was inadvertently severed by its cutter on Dec. 16.

Undocking is set for flight day 11. The next day, Discovery's crew will make final preparations for the return home. The astronauts are expected to land at the Kennedy Space Center's Shuttle Landing Facility on flight day 13.

NASA Facts

At Astrotech Space Operations in Titusville, Fla., the STS-121 crew poses for a photo. From left are Pilot Mark Kelly, Mission Commander Steven Lindsey, and Mission Specialists Lisa Nowak, Stephanie Wilson, Piers Sellers and Michael Fossum. The STS-121 crew was at Kennedy to take part in the crew equipment interface test, which provides hands-on experience with equipment they will use on-orbit. Not pictured: Mission Specialist Thomas Reiter of the European Space Agency.

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Kennedy Space Center, FL

FS-2006-02-006-KSC