

NASA Facts

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058



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International Space Station

March 1999

Shuttle Mission STS-96: *First Visit to a New Outpost in Orbit*

Launch Date/Site: 8:31 a.m. CDT May 20, Kennedy Space Center, FL, Pad 39B

Orbiter: Discovery - 26th Flight

Orbit/Inclination: 230 statute miles/51.6 degrees

Mission Duration: 10 days

Payloads: SpaceHab Double Cargo Module (Payload Bay)
Starshine (Payload Bay)
Integrated Vehicle Health Monitoring (Payload Bay)
Volatile Removal Assembly (Cabin)
Shuttle Vibration Forces (Cabin)

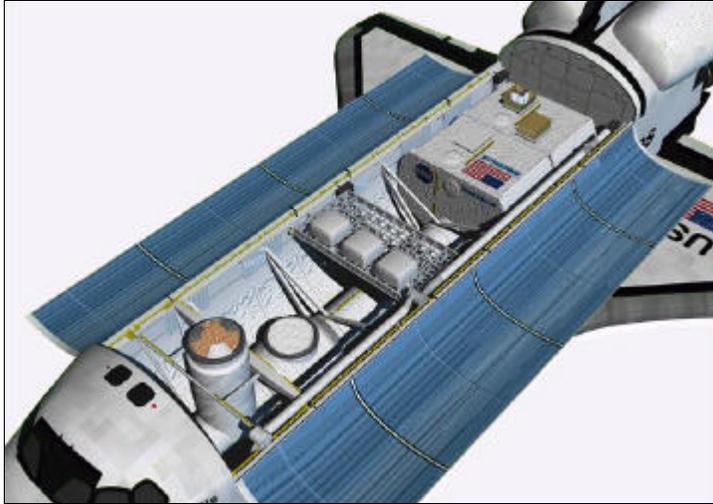
Flight Crew: Kent V. Rominger (Cmdr., USN), Commander
Rick D. Husband (Lt. Col., USAF), Pilot
Tamara E. Jernigan, Mission Specialist (EV crewmember)
Ellen Ochoa, Mission Specialist
Daniel T. Barry, Mission Specialist (EV crewmember)
Julie Payette, Mission Specialist (Canadian Space Agency)
Valery Tokarev, Mission Specialist (Russian Space Agency)

STS-96 Overview

An international crew of seven will become the first visitors to the new International Space Station since its launch and assembly last year when Discovery lifts off on Space Shuttle mission STS-96 in May.



Targeted for launch on May 20, Discovery will be the first shuttle to dock with the new station since the crew of Endeavour departed the outpost in December 1998. Discovery's four-man, three-woman crew will bring more than 5,000 pounds of supplies to be stored aboard the station, ranging from laptop computers, a printer, and cameras to maintenance tools, spare parts and clothing for future station crews. Discovery will spend five days linked



Spacehab Double Cargo Module in Shuttle payload bay

the station, transferring and installing gear that could not be launched aboard the modules due to weight limitations. Discovery's mission sets the stage for the arrival of the first station living quarters, the Russian-provided Service Module, scheduled to be launched by Russia later this year. Discovery's flight is the first of four Space Shuttle assembly missions scheduled to visit the station in 1999.

Navy Commander Kent Rominger, 42, will command Discovery's crew, which includes cosmonaut Valery Tokarev, 46, a colonel in the Russian Air Force, and Canadian astronaut Julie Payette, 35, as mission specialists. Rick Husband, 41, Lt. Col., USAF, will serve as pilot of Discovery, and a spacewalk will be performed by astronauts Tammy Jernigan, 40, and Dr. Daniel Barry, M.D., 42, while Discovery is docked to the station. Jernigan and Barry will attach a U.S. spacewalkers' "crane" to the exterior that will assist in future assembly activities. Parts of a Russian "crane" also will be attached. Mission Specialist Ellen Ochoa, a two-time shuttle veteran, rounds out Discovery's crew as flight engineer and a mission specialist. Ochoa will operate the shuttle's mechanical arm from inside the cabin during the spacewalk.

In addition to its primary cargo of station supplies and equipment, Discovery will carry aloft a small satellite called Starshine that will provide educational observations for students around the world studying orbital mechanics and aerospace. Another test aboard Discovery will explore the use of new equipment, called the Volatile Removal Assembly, that may one day be used for recycling water aboard the space station.

Two new sets of sensing systems will be studied during Discovery's mission as well. A set of sensors called the Shuttle Vibration Forces experiment will record the vibrations experienced between the shuttle and its cargoes. Another set of new sensors and avionics equipment mounted in the payload bay, called the Integrated Vehicle Health Monitoring System, will record the performance of various onboard systems and may enhance the safety and efficiency of future Shuttle flights.

Discovery is planned to spend 10 days in orbit, landing at the Kennedy Space Center on May 30. Following Discovery's flight, Atlantis is scheduled to next visit the International Space Station in October, after the uncrewed Service Module has automatically docked with the new outpost.

The International Space Station will allow humankind to harness as never before one of the fundamental forces of nature – gravity – to perform research that may result in new medicines, materials and industries on Earth. When completed, the station will provide more than 60 times as much power to scientific research as was available on the Russian Mir space station. The station's scientific studies, performed in six state-of-the-art laboratories, may even lead to a new understanding of the fundamental laws of nature while they pave the way for the future human exploration of deep space.

The International Space Station has already opened new frontiers on Earth by overcoming barriers of language, culture and technical differences worldwide. Partners in the United States-led station include Canada, 11 member nations of the European Space Agency, Japan and Russia. Italy and Brazil also are contributing. As the first truly international space program, the station fulfills a promise from the Apollo Program, which left a plaque on the moon saying "We came in peace for all mankind."

Assembling the station is an unprecedented task, turning Earth orbit into an ever-changing construction site. More than 100 elements will be joined over the course of approximately 45 assembly flights using the Space Shuttle and two types of Russian rockets. An international cast of astronauts and cosmonauts will do much of the work by hand, performing more space walks in just five years than have been conducted throughout the history of space flight.



The International Space Station Unity (foreground) and Zarya modules as seen from the Space Shuttle Endeavour as the two modules were attached in orbit in December 1998.

STS-96 Crew Biographies



Kent V. Rominger, 42, Cmdr., USN, will command Discovery on STS-96. Selected as an astronaut in 1992, he was born in Del Norte, CO, and will be making his fourth space flight. Rominger flew as pilot on missions STS-73 in 1995, STS-80 in 1996 and STS-85 in 1997. He has logged more than 1,090 hours in space.



Rick D. Husband, 41, Lt. Col., USAF, will be Pilot. Selected as an astronaut in 1994, Husband was born in Amarillo, TX, and will be making his first space flight. Before his selection by NASA, Husband served as an Air Force test pilot and as an exchange test pilot with the Royal Air Force at Boscombe Down in the United Kingdom.



Tamara E. Jernigan, 40, Ph.D., will be Mission Specialist 1 (MS1) and extravehicular crewmember 1 (EV1). Selected as an astronaut in 1985, she was born in Chatanooga, TN, and will be making her fifth space flight. She has logged over 1,277 hours in space and flew on STS-40 in 1991; STS-52 in 1992; STS-67 in 1995; and STS-80 in 1996.



Ellen Ochoa, 41, Ph.D., will be Mission Specialist 2 (MS2). Selected as an astronaut in 1990, Ochoa considers La Mesa, CA, her hometown and will be making her third space flight. Ochoa has logged over 484 hours in space on two flights: STS-56 in 1993 and STS-66 in 1994.



Daniel T. Barry, 45, M.D., Ph.D., will be Mission Specialist 3 (MS3) and extravehicular crew member 2 (EV2). Selected as an astronaut in 1992, he considers South Hadley, MA, his hometown and will be making his second space flight. Barry has logged more than 214 hours in space on Shuttle mission STS-72 in 1996.



Julie Payette, 35, will be Mission Specialist 4 (MS4). Selected as an astronaut by the Canadian Space Agency in 1992, she was born in Montreal, Quebec, Canada and will be making her first space flight. With a Canadian Air Force captaincy on military jets, she has logged more than 600 hours of flight time, including 150 hours in the CT-114 jet aircraft.



Valery Ivanovich Tokarev, 46, Col., Russian Air Force, will be Mission Specialist 5 (MS5). Selected as a cosmonaut in 1987, he was born in Kap-Yar, Astrakhan Region, Russia, and will be making his first space flight. Originally selected in a group of cosmonauts planned to fly the Russian Buran spacecraft, he has served as a test cosmonaut at the Gagarin Cosmonaut Training Center, Star City, Russia, since 1997.