STS-122/ISS 1E = Atlantis
Launch: Feb. 7, 2008, at 2:45 p.m. EST., Pad 39A
Landing: Feb. 20, 2008 @ KSC, runway 15

Crew:
Stephen N. Frick, commander
Alan Poindexter, pilot
Mission Specialists:
Rex Walheim
Stanley G. Love
Leland D. Melvin
Hans Schlegel (ESA)
Leopold Eyharts (up)
Daniel Tani (down)

Mission Overview:
The mission delivered and installed the European Space Agency's Columbus laboratory. That utilization comes in the form of Columbus, a 23-by-15-feet research laboratory and the future center of the European Space Agency's activities in space. It will be followed over the next two missions by components of the Japan Aerospace Exploration Agency's module, called Kibo. But for now the focus is on Europe. In addition to the Columbus module itself, Atlantis will deliver experiments to be performed in orbit and two astronauts to perform them – one to visit and one to stay.

Expedition 16 Flight Engineer Daniel Tani, who flew to the Space Station on the STS-120 mission, returned home with the STS-122 crew. STS-122 delivered the European Space Agency astronaut, Leopold Eyharts to the completed.

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STS-123/ISS 1J/A = Endeavour
Launch: Mar. 11, 2008 @ 2:28 a.m. EDT, Pad 39A
Landing: Mar. 26, 2008, 8:39 p.m., @ KSC runway 15

Crew:
Dominic L. Gorie, commander
Gregory H. Johnson, pilot
Mission Specialists:
Richard M. Linnehan
Garrett E. Reisman,
Robert L. Behnken
Michael J. Foreman
Takao Doi (JAXA)

ISS Crew:
Peggy A. Whitson
Daniel Tani
Yuri Malenchenko
Leopold Eyharts (ESA)

This was the first flight where all the international partners participated.

Topping the list of milestones was the delivery of part of the Japan Aerospace Exploration Agency's module, marking the beginning of the agency's presence on the station. The Japanese Experiment Logistics Module, Pressurized Section – called the JLP. It contains critical avionics and serves as a storage area for experiment materials. At 14.4 feet in diameter and 12.8 feet in length, it is the smaller of two pressurized Japanese modules. Combined with other elements, they will make up Kibo, the station's Japanese complex, named for the Japanese word for hope. Kibo's main facility and its robotic arm are scheduled to launch on the following shuttle mission, and a "front porch" that will allow astronauts to expose experiments directly to space will be delivered later.

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STS-124/ISS 1J = Discovery
Launch: May 31, 2008 @ 5:02 p.m. EDT- Pad 39A
Landing: June 14, 2008 @ 11:15 a.m. EDT @ KSC, r

Crew:
Mark E. Kelly, commander
Kenneth T. Ham, pilot
Mission Specialists:
Michael E. Fossum
Karen L. Nyberg,
Ronald J. Garan
Akihiko Hoshide, JAXA
Gregory E. Chamitoff (up)
Garrett Reisman (down)

ISS Crew:
Sergei Volkov
Oleg Kononenko

Mission Overview:
STS-124 launched the main segment of the Japan Aerospace Exploration Agency's (JAXA's) – station laboratory. Kibo's Japanese Pressurized Module (JPM). It was 14.4 feet in diameter, 36.7 feet long, and attached to the left side of the Harmony connecting node, opposite the European Columbus science lab.

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STS-126/ULF2 - Endeavour
Launch: Nov. 15, 2008 @ 7:55 p.m.EDT - Pad 39A
Landing: Nov. 30, 2008 @ 4:25 p.m. EDT @Edwards AF Base, CA

Crew:
Chris Ferguson, commander
Eric Boe, pilot
Mission Specialists:
Donald R. Pettit
Stephen G. Bowen
Robert S. Kimbrough
Heidemarie M. Stefanyshyn-Piper
Sandra H. Magnus (up)
Gregory Charmitoff (down)

ISS crew:
Mike Fincke
Gregory Charmitoff
Yury Lonchakov

Mission Overview

This mission will give the International Space Station the ability to support twice the crew currently living there. But since the most recent inspection of the station's solar alpha rotary joint, it's also become the mission that will ensure the station can generate the power those extra crew members will require.

The solar alpha rotary joints are two 10-foot-wide, wagon-wheel-shaped joints on the station's truss that allow the electricity-generating solar arrays to rotate so that they're always getting as much sun as possible. Flight controllers on the ground noticed a year ago that it was taking more power than normal to rotate the SARJ on the station's starboard – or right – side, and it was vibrating more than it should.

The power generated by the two SARJs will be put to good use next year when the station increases to a crew of six, rather than the current three. STS-126's main purpose is to get the station ready for the expansion, and space shuttle Endeavour is bringing with it a multi-purpose logistics module loaded with about 32,000 pounds of equipment with which to do so.