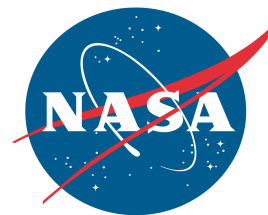


NASA Facts

National Aeronautics and
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FACT SHEET

June 2007

SPACE SHUTTLE ATLANTIS (STS-117)

Space Shuttle Atlantis' upcoming mission, designated STS-117, will increase the International Space Station's power capability and prepare the station for the arrival of new modules from the European and Japanese space agencies. The shuttle also will deliver a new crew member and bring another one back after a six-month mission. Using lessons from the last two shuttle flights, the Atlantis crew will work closely with the station crew and ground teams at NASA's Johnson Space Center, Houston, to complete the mission objectives. The shuttle is delivering a new segment to the starboard side of the station's backbone, known as the truss. Three spacewalks are planned to install the S3/S4 truss segment, deploy a set of solar arrays and prepare them for operation. Two days and one spacewalk may be added to the 11-day mission if there are difficulties when another solar array is folded back into its box.

CREW

(For more details, see Press Kit, p. 19)

	<p>Rick Sturckow (stur-coe) Commander (Colonel, Marine Corps)</p> <ul style="list-style-type: none"> • Veteran of two spaceflights, pilot on the first station assembly mission, STS-88 in 1998 • Age: 45, Hometown: Lakeside, Calif. • Enjoys flying and physical training • Nickname: C.J. 		<p>Lee Archambault (arsh-um-boe) Pilot (Colonel, U.S. Air Force)</p> <ul style="list-style-type: none"> • First spaceflight, lead station robotic arm operator for S3/S4 installation and space walks • Age: 46, Hometown: Bellwood, Ill. • Nickname: Bru
	<p>Patrick Forrester Mission Specialist (Colonel, U.S. Army retired)</p> <ul style="list-style-type: none"> • Veteran of one spaceflight • Will conduct at least one spacewalk on STS-117 • Age: 50, born in El Paso, Texas • Enjoys baseball and running 		<p>Steven Swanson Mission Specialist</p> <ul style="list-style-type: none"> • First spaceflight, will perform at least one spacewalk with Forrester • Age: 46, Hometown: Steamboat Springs, Colo., enjoys skiing and woodworking • Nickname: Swanny
	<p>John 'Danny' Olivas (oh-leev-us) Mission Specialist (Ph.D)</p> <ul style="list-style-type: none"> • First spaceflight, will perform two spacewalks • Born in North Hollywood, Calif., Hometown: El Paso • Enjoys hunting, surfing and spending time with his five children 		<p>Jim Reilly Mission Specialist (Lieutenant, U.S. Navy)</p> <ul style="list-style-type: none"> • Veteran of two spaceflights, will conduct two spacewalks with Olivas • Age 53, Hometown: Mesquite, Texas • Nickname: J.R.
	<p>Clayton Anderson Mission Specialist/Expedition 15 Flight Engineer</p> <ul style="list-style-type: none"> • First spaceflight, • Age 48, Hometown: Omaha, Neb. • Interests include officiating college and high school basketball, coaching youth sports, flying and writing music 		<p>Sunita Williams Mission Specialist (Commander, U.S. Navy)</p> <ul style="list-style-type: none"> • Flew to station on STS-116 in December • Hometown: Needham, Mass. • Expedition 14 & 15 crew member; record holder for females with four spacewalks • Nickname: Suni (sunny)
	<p>The STS-117 crew patch depicts the station with the S3/S4 sections and a new set of solar arrays. The two gold astronaut office symbols, emanating from the "117," represent the shuttle and station programs' efforts to complete the station. The shuttle and banner of red, white and blue represent our nation's renewed patriotism as NASA continues to explore the universe.</p>		

MISSION HIGHLIGHTS (For a day-by-day timeline of the mission, Press Kit, p. 11)

- **Spacewalks:** Each will last approximately 6.5 hours. (Press Kit, p. 35)
 - First spacewalk or EVA #1: On flight day 4, Reilly and Olivas will hook up power cables to begin activation of the S3/S4 truss. The astronauts also start to prepare the Solar Alpha Rotary Joint, also known as the SARJ, for activation. Once activated, the SARJ will rotate 360 degrees to allow the new solar arrays to track the sun. (Press Kit, p. 43)
 - Second spacewalk: On flight day 6, if required, Forrester and Swanson will help to manually fold the station's P6 starboard solar array back into its box. This retraction will allow the SARJ to rotate. The astronauts also will remove most of the SARJ's 16 launch locks, six launch restraints and 20 covers.
 - Third spacewalk: On flight day 8, if still required, Reilly and Olivas will complete manually folding the P6 solar array. They also will finish removing the SARJ's launch locks and restraints so that it can be activated. They also will conduct tasks to prepare for the STS-118 mission, targeted for August. They are called "get-ahead tasks."
 - A potential fourth spacewalk: On flight day 10, Forrester and Swanson could continue with get-ahead tasks if supplies are sufficient and if all primary tasks from the previous spacewalks are complete. They also could install a vent line outside the Destiny Lab for the new Oxygen Generation System.

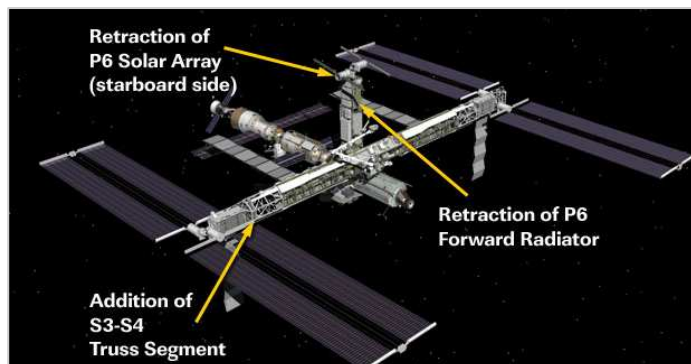


Figure 1: Space station configuration after STS-117

FACTS & FIGURES

- STS-117 is the 118th space shuttle flight, the 21st flight to the station, the 28th flight for Atlantis and the first of four flights planned for 2007. The STS-117 launch is the 65th from Pad 39A. The previous launch from that pad was Space Shuttle Columbia on Jan. 16, 2003.
- Each solar array is about 115 feet long. The total wing span is more than 240 feet. After this mission, the arrays will provide a total power capability of about 60 kilowatts, equivalent to the power used by 40 typical U.S. homes at any given moment. (Press Kit, p. 45)
- During the STS-117 mission, an improvement to the shuttle's main engine system will be actively operating on one of the spacecraft's three engines. The Advanced Health Management System, or AHMS, can shut down an engine if vibration anomalies are detected. The AHMS was in monitor-only mode on one engine during the STS-116 mission in December 2006 and will be in the same mode for Atlantis' two other engines. (Press Kit, p. 63)
- Commander Sturckow and Mission Specialist Forrester flew on STS-105 in August 2001, the 11th mission to the International Space Station.
- Shuttle Atlantis carries an almost 400-year-old artifact from historic Jamestown, Va. Upon completion of the flight, the metal cargo tag will have logged more than 4 million miles during four centuries, traveling from England to Jamestown and round trip to the International Space Station.
- Nearly 17,000 NASA civil servants and contractors across the country contribute to the agency's Space Shuttle Program