



Construction Zone in Space

Completing construction of the International Space Station required the assembly of component parts in space.

The orbital assembly of the space station began with the launch of its first bus-sized component, Zarya, from Kazakhstan on Nov. 20, 1998. This milestone began an international construction project of unprecedented complexity.

Since Zarya's launch as the early command, control and power module, there have been 40 additional construction flights to the station: 36 aboard the space shuttle and four additional Russian Proton rocket launches.

Through the course of nearly 160 spacewalks and unmatched robotic construction in space, the station's truss



Astronaut Michael Fincke working on the ISS.



NASA astronaut Andrew Feustel, STS-134 mission specialist, participates in the mission's first Spacewalk as construction and maintenance continue on the International Space Station.

structure has grown and station modules from the shuttle's payload bay have been maneuvered into place.

Sophisticated engineering at space program facilities and faculties here on Earth have allowed for each of the component parts that make up the station to be properly assembled, piece by piece, in space without ever having been assembled on Earth.

Construction included the use of unprecedented levels of recycling to conserve resources and minimize resupply needs. Life support systems recycle human liquid waste and condensation to create drinkable water and use water to manufacture oxygen and purify the air through advanced filtration and carbon dioxide removal systems.

Even as the station was being assembled, researchers took advantage of the time available between assembly and maintenance tasks to complete hundreds of

experiments, resulting in advances in the fight against food poisoning, new methods for delivering medicine to cancer cells and better materials for future spacecraft.

Coupled with international cooperation and work using teams of both humans and robots, the space station is a successful, proven model of an orbiting laboratory where humans can live, research can be conducted and the exploration of space can continue.

Space Station Facts

The space station will weigh almost one million pounds (925,627 lbs). That's the equivalent of more than 320 automobiles.

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FS-2011-06-013-JSC

