



National Aeronautics and
Space Administration

International Space Station: Human Tended





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This illustration depicts the International Space Station in its human-tended state with elements from the United States, Canada, and Russia. The Space Shuttle carries a seven-person crew including three scientist astronauts who will remain on the Space Station and relieve another crew. A United States solar array will be attached to a small truss atop the United States node. The small truss supporting the solar array will remain in place on the node and it will house control moment gyros and communications antennae.

Parts of the Space Station:

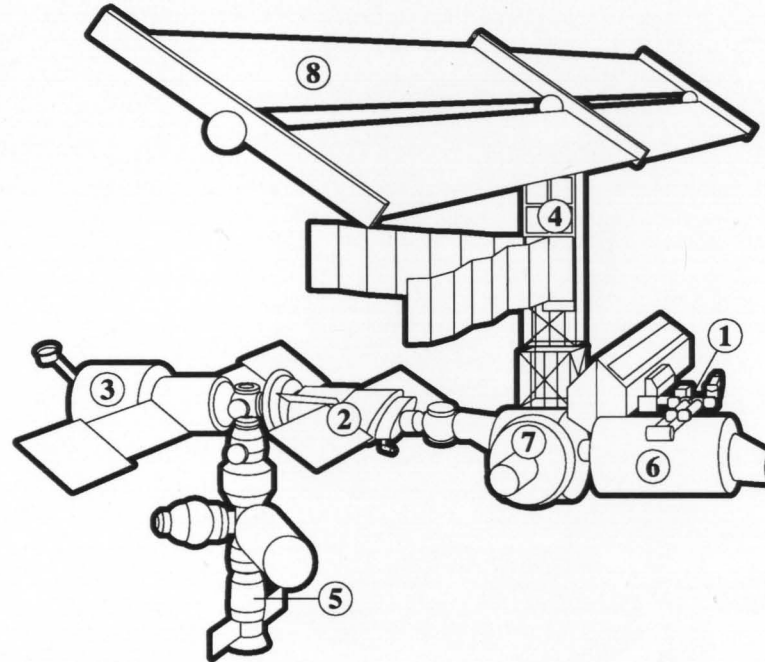
(1) Canadian Mobile Servicing System—includes a 55-foot (16.76 meters) robot arm with a 125-ton (13.4 metric tons) payload capability which can be positioned along the truss by a mobile transporter for assembly, maintenance, and change out of Space Station hardware.

(2) Russian FGB—energy block, contingency fuel storage, propulsion and multiple docking points. The 40,000 pound (18,144 kilograms) element is launched on a Proton vehicle.

(3) Russian Service Module—life support and utilities, thrusters, and habitation functions (toilet, hygiene facilities). The 46,000-pound (20,865.6 kilograms) element is launched on a Proton vehicle.

(4) Science Power Platform—will be given more time for development and testing and will be replaced initially by the S6 segment of the truss. Both the S6 segment and, later, the SPP will provide power (20 kW), attitude control (gyrodynes) and heat rejection for initial phase of Space Station science and operations. The SPP uses U.S.-provided solar cells, and is launched on four flights of the Russian Zenit rocket.

(5) Crew Transfer Vehicle—Russian Soyuz TM Capsule.



Progress Cargo Vehicles—carry reboost propellant (up to 6,600 pounds (2,993.76 kilograms) to the Space Station about four times per year. (Not shown)

(6) U.S. Laboratory—Module.

(7) U.S. Node—provides storage space and houses racks of equipment used to convert electrical power for use by the international partners.

(8) U.S. Solar Array—provides about 23 kW of power to run both the station's systems, as well as the experiments in the laboratory module. The array is 112 long by 39 feet wide.

Significant Dates

Date	Payload
11/97	FGB Energy Block launched on Proton rocket
12/97	Node 1 launched on Space Shuttle and attached to FGB
5/98	Russian Service Module launched
5/98	First Russian Crew Transfer vehicle launched—space station now can accommodate long duration stays of three-person crews
9/98	U.S. solar array launched
11/98	U.S. laboratory module and Canadian robot arm launched to station
2/99	First Utilization flight—completes outfitting of the U.S. lab
4/99	Assembly completed of human-tended space station configuration