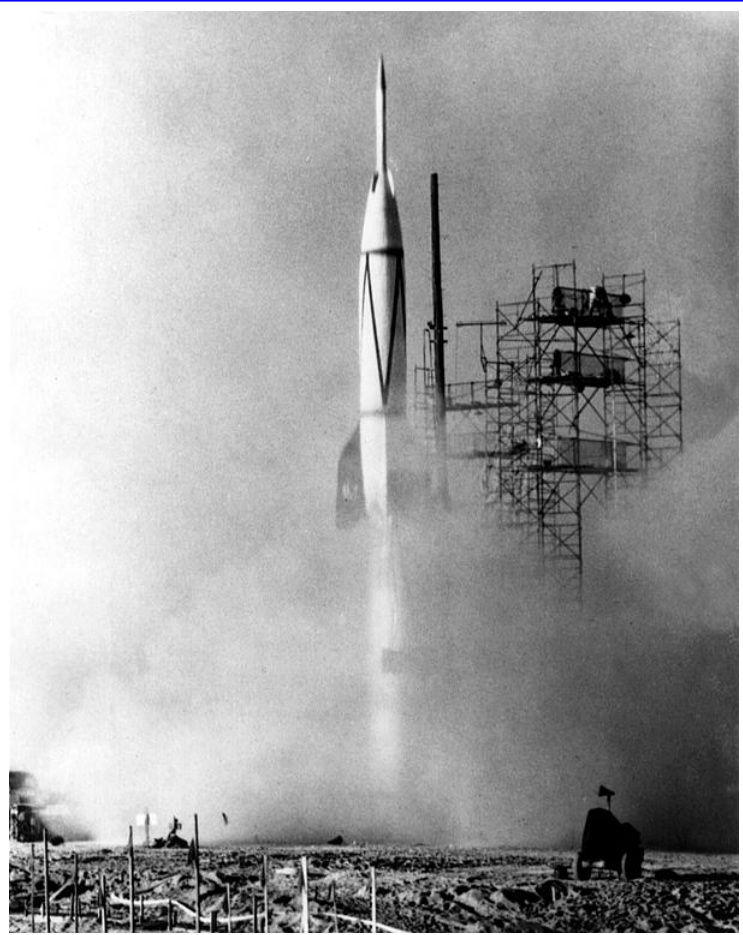


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# UNITED STATES SPACE PROGRAM FIRSTS

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**Robotic & Human Mission Firsts**



**Kennedy Space Center Library Archives**

**Kennedy Space Center, Florida**

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DATE	ROBOTIC EVENTS	MISSION
07/24/1950	First missile launched at Cape Canaveral.	Bumper V-2
08/20/1953	First Redstone missile was fired.	Redstone 1
12/17/1957	First long range weapon launched.	Atlas ICBM
01/31/1958	First satellite launched by U.S.	Explorer 1 [Juno 1/Jupiter C]
10/11/1958	First observations of Earth's and interplanetary magnetic field.	Pioneer 1 [Thor-Able-1]
12/13/1958	First capsule containing living cargo, squirrel monkey, Gordo. Although not a NASA mission, data was utilized in Project Mercury planning.	Bioflight 1 [Jupiter AM-13]
12/18/1958	First communications satellite placed in space. Once in place, Brigadier General Goodpaster passed a message to President Eisenhower	Project Score [USAF Atlas]
02/17/1959	First fully instrumented Vanguard payload. First Earth photos from satellite.	Vanguard 2 [Vanguard SLV-4]
03/03/1959	First U.S. sun-orbiter, a US-IGY space probe.	Pioneer 4 [Juno II AM-14]
04/01/1960	First World's weather satellite to transmit global coverage photos.	Tiros 1 [Thor-Able-5]
05/13/1960	First use of the Delta launch vehicle.	Echo [Delta 1]
08/12/1960	First passive communications satellite by NASA. First transmission of TV pictures in space delivered on 04/24/1962.	Echo I [Delta 2]
01/31/1961	First fully equipped, operational Mercury capsule suborbital test launch with primate onboard. [Ham]	MR-2 [Mercury-Redstone 2]
02/16/1961	First spacecraft orbited by an all solid rocket. [WFF]	Explorer 9 [Scout 4]
08/16/1961	First to investigate solar winds, interplanetary magnetic fields, and energetic particles.	Explorer 12 [Delta 6]
11/18/1961	First test of spacecraft systems designed for future lunar and interplanetary missions.	Ranger II [Atlas-Agena-2]
11/29/1961	First Chimpanzee to orbit the Earth. [Enos.] First intelligent animal flight aboard an Atlas missile. [Enos]	MA-5 [Mercury-Atlas-93D]
01/26/1962	First measurement of interplanetary gamma ray flux.	Ranger 3 [Atlas-Agena-3]
04/26/1962	First international satellite; joint venture between United States and United Kingdom.	Ariel I [Thor-Delta]
07/10/1962	First privately financed satellite and First telephone and TV experiments transmitted.	Telstar 1 [Delta 11]
08/27/1962	First spacecraft to scan another planet [Venus].	Mariner 2 [Atlas-Agena-6]
09/29/1962	First NASA launch from WTR. First use by NASA of the Thor Agena launch vehicle.	Alouette 1 [Thor-Agena-1]
12/13/1962	First active repeater communications satellite in an orbit.	Relay 1 [Delta 15]
02/14/1963	First test of a communication satellite in geosynchronous orbit.	Syncom 1 [Delta 16]
04/18/1963	First in NASA sounding rocket program when NASA launched 85 pound scientific payload to 208 mile altitude.	Explorer 17 [Delta 17]
05/03/1963	First drop test of Project Apollo earth landing system.	Apollo Project [Boiler plate]

DATE	ROBOTIC EVENTS	MISSION
07/26/1963	First world's satellite to achieve synchronous 24-hour orbit.	Syncom 2 [Delta 20]
11/07/1963	First off-the-pad abort test of the Apollo launch escape system successfully tested at White Sands Missile Range, NM.	Apollo [Boilerplate #6]
11/22/1963	First live transmission of TV signals across Pacific via communications satellite.	Relay I [Delta 15]
11/26/1963	First interplanetary monitoring platform to observe interplanetary space.	Explorer 18 [Delta 21]
11/27/1963	First successful launch of Atlas/Centaur. First known ignition of liquid hydrogen-fueled rocket engines in space.	Atlas/Centaur
01/29/1964	First test flight of the new Block II vehicles.	SA-5 [Saturn 1]
02/26/1964	First visual telecast via communications satellite of the Liston vs Clay Championship fight.	Relay 2 [Delta 23]
04/08/1964	First Project Gemini flight which tested the Titan II launch vehicle.	GT-1 [Gemini 1] [Titan II GLV-1]
04/14/1964	First launch of Project Fire re-entry vehicle in support of Project Apollo.	Fire 1 [Atlas-X259]
05/28/1964	First major flight test in Project Apollo.	SA-6 [Saturn 1]
08/19/1964	First launch of a Delta using strap-on solid motors [3] to increase first stage thrust.	Syncom 3 [Delta 25]
08/28/1964	First NASA program to develop and operate advanced meteorological pace observatories.	Nimbus 1 [Thor-Agena-3]
09/04/1964	First Orbiting Geophysical Observatory, designed to conduct numerous space experiments simultaneously.	OGO 1 [Atlas-Agena-10]
09/18/1964	First demonstration of Launch Escape System [LES] design.	SA-7 [Saturn I]
11/21/1964	First dual spacecraft launched with a single booster and each with a double payload.	Explorer 24 & Explorer 25 [Scout 34]
11/28/1964	First successful Mars probe.	Mariner 4 [Atlas-Agena-12]
12/08/1964	First test of Apollo emergency detection system at abort altitude.	Apollo Abort [Little Joe II]
01/22/1965	First Cartwheel configuration for Weather Bureau's Operational system.	Tiros 9 [Delta 28]
02/16/1965	First primary use of capacity-type penetration detector [Pegasus 1].	SA-9 [Saturn I]
04/06/1965	First commercial satellite launched by NASA for COMSAT Corp on a reimbursable basis.	Intelsat 1 [Early Bird] [Delta 30]
07/01/1965	First U.S. Weather Bureau funded spacecraft.	Tiros 10 [Delta 32]
11/06/1965	First launch of a Geodetic Earth Orbiting Satellite.	GEOS 1 [Explorer 29] [Delta-34]
02/03/1966	First TIROS Operational Satellite [TOS] of series funded by Environmental Science Services Administration.	ESSA 1 [Delta 36]
02/26/1966	First launch of two stage Saturn IB [AS-201] and Apollo spacecraft [009].	Apollo-Saturn [Saturn IB AS-201]

DATE	ROBOTIC EVENTS	MISSION
05/25/1966	First Saturn V stack from VAB to Launch Complex 39A.	Saturn 500F
05/30/1966	First U.S. spacecraft to soft land on the Moon.	Surveyor 1 [Atlas-Centaur-10]
07/01/1966	First Anchored Interplanetary Monitoring Platform [AIMP] designed to become the nation's first Moon satellite.	Explorer 33 [Delta 39]
08/10/1966	First U.S. spacecraft to orbit and photograph the Moon.	Lunar Orbiter I [Atlas-Agena-17]
08/25/1966	First use of spacecraft fuel cell power system.	Apollo-Saturn [Saturn IB AS-202]
12/06/1966	First satellite in Applications Technology Satellite program. First successful transmission of fingerprint records via satellite reported by Government Photography 3/72.	ATS 1 [Atlas-Agena-19]
03/14/1967	First pictures ever taken of an identifiable outline of a man-made object that landed on the Moon . [Surveyor 1 on Moon's surface]	Lunar Orbiter 3 [Atlas-Agena-20]
04/26/1967	First satellite launch attempt from a mobile sea-based platform.	San Marco II [Scout 52]
05/05/1967	First UK built satellite to extend atmospheric and ionospheric investigations. [WSMC]	Ariel III [Scout 53]
08/18/1967	First fireproof version of the spacecraft fabric Velcro is perfected for First crew assisted Apollo mission.	Apollo 7 [Saturn IB AS-205]
08/26/1967	First Saturn V rollout from Vehicle Assembly Building [VAB] to Launch Complex 39A.	Apollo 4 [Saturn V AS-501]
11/09/1967	First flight test of Apollo/Saturn V space vehicle. First launch from Saturn V facilities LC-39 at KSC. First "all-up" test of a launch vehicle.	Apollo 4 [Saturn V AS-501]
12/13/1967	First NASA piggyback payload.	TETR-1/Pioneer 8 [Delta 55]
01/22/1968	First Earth orbital test [robotic] of Apollo spacecraft Lunar Module [LM].	Apollo 5 [Saturn IB AS-204]
05/18/1968	First NASA launch using long-tank Thor-Agena [U]. [SLC-2E]	Nimbus [Thor-Agena-9]
09/18/1968	First global communications network satellite.	Intelsat III [Delta 59]
12/05/1968	First satellite produced by the ESTC for the European Space Research Organization [ESRO].	HEOS 1 [Delta 61]
02/24/1969	First Mariner launch with the Atlas/Centaur launch vehicle.	Mariner 6 [Atlas-Centaur 20]
09/17/1969	First public display of lunar rock at Smithsonian Institution.	Apollo 11
11/21/1969	First United Kingdom communications satellite.	Skynet 1 [Delta 74]
03/20/1970	First communications satellite for NATO.	NATOSAT 1 [Delta 77]
12/11/1970	First operational second-generation meteorological satellite with three axis stabilization and nighttime viewing capability. [SLC-2W]	NOAA 1 [Delta 81]
01/25/1971	First flight of an uprated Atlas SLV-3C first stage.	Intelsat IV F-2 [Atlas-Centaur-25]
05/30/1971	First detailed map of another planet, Mars, prepared by photos taken by spacecraft. First spacecraft to orbit another planet in the solar system.	Mariner 9 [Atlas-Centaur 23]

DATE	ROBOTIC EVENTS	MISSION
09/29/1971	First photos of solar flare spouting from far side of Sun sent back to Earth.	OSO 7 [TETR 3] [Delta 85]
03/02/1972	First spacecraft to reach Jupiter. First spacecraft to penetrate and cross the asteroid belt. First spacecraft to provide "in situ" measurements of Jupiter's environment. First spacecraft to take close-up pictures of Jupiter. First NASA spacecraft to use all-nuclear electrical power. First spacecraft capable of operating beyond the influence of the Sun. First spacecraft to fly beyond the orbit of Mars. First manmade object to leave solar system.	Pioneer 10 [Atlas-Centaur-27]
07/23/1972	First use of Delta Inertial Guidance System. First use of nine strap-on solid propellant motors on first stage.	Landsat 1 [Delta 89]
11/09/1972	First flight of a three-stage Delta "Straight Eight" configuration. First domestic communications satellite for Canada.	Telsat 1 [Anik 1] [Delta 92]
04/05/1973	First spacecraft to fly to Saturn. First spacecraft to take close-up pictures of Saturn. First spacecraft to provide pictures of the polar regions of Jupiter.	Pioneer 11 [Atlas-Centaur 30]
11/03/1973	First spacecraft to explore the planet Mercury. First spacecraft to use gravitational pull of one planet [Venus] to reach another [Mercury].	Mariner 10 [Atlas-Centaur 34]
12/16/1973	First spacecraft in a series of Atmosphere Explorers equipped with unusually powerful on-board propulsion systems.	Explorer 51 [Delta 99]
02/11/1974	First launch of Titan/Centaur launch vehicle.	Titan-Centaur Proof Flight [Titan IIIE-Centaur D]
04/13/1974	First satellite for domestic communications.	Westar 1 [Delta 101]
05/17/1974	First prototype geosynchronous orbit weather satellite.	SMS 1 [Delta 102]
11/03/1974	First polar images of Jupiter sent back to Earth.	Pioneer 11 [Atlas-Centaur-30]
12/10/1974	First launch in joint project of the U.S. and West Germany.	Helios 1 [Titan III-Centaur-2]
08/20/1975	First soft landing on Mars. Landed on Mars July 20, 1976	Viking 1 [Titan III-Centaur-4]
10/16/1975	First operational satellite in NOAA's geosynchronous weather satellite system.	GOES 1 [Delta 116]
12/12/1975	First flight of the model 3914 Delta launch vehicle. First RCA domestic communications satellite.	Satcom 1 [Delta 118]
02/19/1976	First U.S. Maritime Communications Satellite in geosynchronous orbit.	Marisat 1 [Delta 120]
04/17/1976	First perihelion passage as programmed closest approach to the sun.	Helios 2 [Titan-111/Centaur-5]
05/13/1976	First communications satellite designed for lease to AT&T.	Comstar D-1 [Atlas-Centaur-38]
07/08/1976	First domestic communications satellite to service Indonesia's 3,000 islands & 120 million people.	Palapa 1 [Delta 125]
04/20/1977	First geosynchronous scientific satellite owned and developed by the European Space Agency.	Geos [Delta 130]

DATE	ROBOTIC EVENTS	MISSION
08/12/1977	First spacecraft to detect high energy radiation, X-rays, gamma rays, and cosmic rays.	HEAO 1 [Atlas-Centaur-45]
08/20/1977	First spacecraft flyby of Neptune. First spacecraft flyby of Uranus. First photos taken of Neptune and Neptune's moons and satellites.	Voyager 2 [Titan III-Centaur-7]
08/25/1977	First communications satellite owned and operated by Italy to be placed in a geosynchronous orbit.	Sirio [Delta 133]
09/05/1977	First spacecraft flyby of Jupiter. First spacecraft flyby of Saturn. First photos of Jupiter & Jupiter's moons. First photos of Saturn's complex ring system, providing first close-ups of unexpected patterns and other characteristics which defied several gravitational theories. First spacecraft to enter the solar system's final frontier.	Voyager 1 [Titan III-Centaur-6]
10/22/1977	First International Sun-Earth Explorers in a three-spacecraft series.	ISEE 1/ISEE 2 [Delta 135]
02/09/1978	First military satellite designed for worldwide communications for military use.	FLTSATCOM 1 [Atlas-Centaur-44]
05/20/1978	First spacecraft placed in orbit around Venus.	Pioneer Venus 1 [Atlas-Centaur-50]
01/30/1979	First spacecraft devoted primarily to studying the near-Earth environment.	SCATHA [Delta 148]
02/14/1980	First solar satellite designed to study solar phenomena. [Solar Maximum Mission]	SMM [Delta 151]
11/15/1980	First satellite implementing a business communications system. [Satellite Business Systems]	SBS 1 [Delta 153]
12/06/1980	First of a new generation of satellites to be deployed in geosynchronous orbit.	Intelsat V F-2 [Atlas-Centaur-54]
01/25/1983	First Infrared Astronomical Satellite all-sky survey for objects that emit infrared radiation and provide a catalog of infrared sky maps.	IRAS [Delta 166]
06/28/1983	First venture of Hughes Aircraft into the field of operational spacecraft.	Galaxy 1 [Delta 170]
06/09/1984	First launch of the upgraded Atlas/Centaur launch vehicle. [U]	Intelsat V F-9 [Atlas-Centaur-62]
07/28/1983	First Telstar owned by AT&T to be used as an operational spacecraft.	Telstar 3A [Delta 171]
03/22/1985	First in a series of improved Commercial Communication satellites for Intelsat.	Intelsat V-A F-10 [Atlas-Centaur-63]
09/05/1986	First Strategic Defense Initiative Organization payload.	SDI-1 [Delta 180]
02/14/1989	First Delta II launch.	NAVSTAR II-1 [Delta 184]
11/18/1989	First spacecraft to provide the most comprehensive observations to date of radioactive content of the universe. [Cosmic Background Explorer] First Nobel Prize ever by a NASA civil servant scientist. [J. Mather-Goddard]	COBE [Delta II]
04/05/1990	First Pegasus satellite demonstration flight of the Pegasus launch vehicle.	Pegasus [Pegasus]
12/07/1991	First launch of the Atlas-2 launch vehicle.	Eutelsat [Atlas 2]
07/03/1992	First of the Small Explorer [SMEX] fleet carrying four cosmic ray monitoring instruments to study solar energetic particles.	SAMPEX [Scout]

DATE	ROBOTIC EVENTS	MISSION
07/24/1992	First Delta launch under the medium expendable launch vehicle services contract between NASA and McDonnell Douglas Space Systems Co.	Geotail [Delta II]
05/24/2000	First launch of the new Atlas-3 launch vehicle. First Russian rocket engine was used to power a U.S. launch vehicle.	Eutelsat W4 [Atlas II]
09/29/2001	First launch from the new Kodiak Launch Complex, Alaska. [One of four satellites]	Starshine 3 [Athena 1]
05/13/2003	First Greek satellite in space launched by an Atlas 5 launch vehicle.	Hellas Sat [Atlas 5]
12/17/2003	First U. S. military payload to be launched by a Russian-made rocket engine. [Russian RD-180 engine] lifting an Atlas 3B launch vehicle in space.	Ultra-High Frequency Follow- on F11 satellite
05/19/2005	First pictures ever taken of a spacecraft orbiting a foreign planet by another spacecraft orbiting that planet. The Mars Global Surveyor photographed the Mars Odyssey as it passed. Mars Global Surveyor was launched on 11/07/1996 and has been orbiting Mars since 1997.	Mars Global Surveyor



DATE	EARLY HUMAN SPACEFLIGHT EVENTS	MISSION
05/05/1961	First U.S. suborbital crew assisted space flight. First controlled spaceflight [A. Shepard].	MR-3 Freedom 7 [Mercury-Redstone 7]
02/20/1962	First American crew assisted orbital space flight [J. Glenn]. First time frogmen were dropped into water during recovery to attach flotation device & assist in recovery. First astronaut to address the United Nations [J. Glenn]. First astronaut to eat in space [J. Glenn].	MA-6 Friendship 7 [Mercury-Atlas 109D]
10/03/1962	First liquor in space -miniature of scotch [Cutty Sark]. [W. Schirra]. First astronaut to broadcast a live message to radio and TV listeners. First astronaut to exercise in space by pulling on a bungee cord. [W. Schirra].	MA-8 Sigma 7 [Mercury-Atlas 113D]
05/15/1963	First U.S. flight in excess of a day. First American astronaut to release a satellite from a spacecraft. [G. Cooper]	MA-9 Faith 7 [Mercury-Atlas 130D]
10/31/1964	First NASA astronaut or trainee to lose life, Theodore Freeman.	N/A
03/23/1965	First control of re-entry flight path using maneuverable spacecraft. First crew assisted Gemini mission [V. Grissom/J. Young] First astronaut to fly in space twice [Grissom]. First spacecraft to be processed in the new Operations & Checkout Building [O&C]	GT-3 Molly Brown [Titan II GLV-3]
06/03/1965	First space walk by an American [E. White]. First use of personal propulsion unit during EVA. First astronauts to wear the American flag on their suits. First use of the Mission Control Center in Houston. First mission to require a three-shift operation of the Mission Control Center.	GT-4 [Titan II GLV-4]
08/21/1965	First U.S. flight in excess of a week. First use of the fuel cell. First official NASA program patch issued. First mission with an onboard radar and the first onboard computer	GT-5 [Titan II GLV-5]
12/04/1965	First U.S. space flight in which part of the flight was made without space suit.	GT 7 [Titan II GLV-7]
12/15/1965	First world's rendezvous between two spacecraft using GT-7.	GT-6A [Titan II GLV-6]
03/16/1966	First civilian astronaut to fly in space [N. Armstrong]. First dual launch and docking with the Agena target.	GT-8 [Atlas TLV-5302]
09/12/1966	First orbit Rendezvous and docking.	GT-11 [Titan II GLV-11]
01/27/1967	First scheduled crew assisted Apollo flight ended in tragedy with the loss of three astronauts [E. White/V. Grissom/R. Chaffee].	Apollo 1 [Saturn IB AS 204]
10/11/1968	First test of Apollo Command/Service Module in Earth orbit operated by astronauts in flight. First three member crew mission in the Apollo lunar landing program. First flight with full crew support equipment. First launch from Launch Complex 34. First Saturn IB crew assisted flight. First CSM rendezvous & station-keeping maneuvers. First extensive checkout of CSM systems during mission. First flight of Block II Apollo spacecraft. First eight Service Propulsion System firings. First CM landing in ocean. First live network TV broadcast from space during a crew assisted flight. First astronauts to experience head colds during mission. First flight of the Apollo space suits. First crew to drink coffee in space. First astronaut to fly Mercury, Gemini and Apollo [W. Schirra].	Apollo 7 [Saturn IB AS-205] [CSM-101]

DATE	EARLY HUMAN SPACEFLIGHT EVENTS	MISSION
12/21/1968	<p>First men to reach the vicinity of the moon.            First crew assisted flight launched from Launch Complex 39A.            First crew assisted spacecraft landing in darkness.            First crew assisted flight to orbit the Moon.            First pictures of the Earth taken from the Moon.            First humans to witness the Earth rising over the Moon's horizon.            First crew assisted flight to escape Earth's gravity.            First space vehicle to rocket out of lunar orbit.            First audio-video communication from lunar distance.            First crew assisted space mission using the Saturn V launch vehicle.            First crew to spend Christmas in space.            First humans to see far side of the Moon.</p>	<p>Apollo 8            [Saturn V AS-503]            [CSM-103]            [LTA-B]</p>
03/03/1969	<p>First crew assisted flight test of lunar module.            First launch of complete Apollo configuration [Saturn V vehicle, CSM, and LM].            First docking in space of CSM and LM.            First firing of LM ascent and descent engines in space.            First separation, rendezvous &amp; redocking of two spacecraft.            First EVA by an astronaut completely free of spaceship life support equipment [Schweickart, LM Pilot].            First astronauts to transfer from one spacecraft to another [McDivitt/Schweickart].            First mission in which the use of names for spacecraft was again authorized.            First test of Portable Life Support System in space.</p>	<p>Apollo 9            [Saturn V AS-504]            [CSM-104            Gumdrop]            [LM-3 Spider]</p>
05/18/1969	<p>First crew that shaved in space.            First transmitted color photographs of the full Earth with Westinghouse color TV camera.            First demonstration rendezvous in lunar orbit.            First burning of LM descent stage engine in lunar landing configuration.            First LM steerable antenna at lunar distances.            First LM within 15,240 meters [8 nautical miles] of lunar surface.            First in-flight test of the abort guidance system.            First in-flight use of VHF ranging.            First landing radar test in near-lunar environment.            First crew assisted navigational, visual, and photographic evaluations.            First and only Apollo launch from Launch Complex 39B.            First use of the pad's water deluge system to cool flame deflector.</p>	<p>Apollo 10            [Saturn V AS-505]            [CSM-106 Charlie Brown]            [LM-4 Snoopy]</p>
07/16/1969	<p>First American Flag to be deployed on the Lunar surface            First crew assisted landing on the Moon and return.            First lunar surface extravehicular activity [EVA].            First man-made items on lunar surface.            First human foot print on lunar surface [Armstrong's left foot].            First seismometer deployed on Moon.            First laser reflector deployed on Moon.            First solar wind experiment deployed on Moon.            First lunar soil and rock samples returned to Earth.            First test of landing radar and other landing systems on LM under operational conditions.            First use of mobile quarantine facility.            First use of the Lunar Receiving Laboratory at MSC.            First meal eaten on Moon consisted of four bacon squares, three sugar cookies, peaches, pineapple-grapefruit drink and coffee.</p>	<p>Apollo 11            [Saturn V AS-506]            [CSM-107            Columbia]            [LM-5 Eagle]</p>

DATE	EARLY HUMAN SPACEFLIGHT EVENTS	MISSION
11/14/1969	<p>First use of S-IVB stage to perform an evasive maneuver.            First use of a hybrid trajectory.            First demonstration of a point-to-point landing capability.            First use of two lunar surface EVA periods.            First Apollo Lunar Surface Experiments Package [ALSEP] deployed on Moon.            First {and only} humans to see Sun eclipsed by Earth.            First deployment of the erectable S-band antenna.            First use of geologist to plan lunar surface traverse in real time.            First documentation of samples as they were taken.            First double core tube sample taken.            First return of spacecraft parts from lunar surface [Surveyor 3].            First Saturn V hit by lightning [while passing through a low cloud the vehicle caused an electrical discharge through the Saturn to the ground].            First multi-spectral terrain photography from lunar orbit.            First artificial earthquake [after leaving the Moon, LM crashed into lunar surface].</p>	<p>Apollo 12            [Saturn V AS-507]            [CSM-108 Yankee Clipper]            [LM-6 Intrepid]</p>
04/11/1970	<p>First American orbital emergency during mission.            First aborted Apollo Mission            First impact of the S-IVB/IU on the lunar surface. [Normally it burns up in the Earth's atmosphere.            First operational problem-solving on real-time basis.            First use of LM as "lifeboat" when SM was powered down.            First operational firing of lunar module descent engine in lunar environment to change velocity of CSM/LM while docked.            First attitude positioning of CSM/LM with LM guidance systems.            First demonstrated feasibility of conserving consumables by powering down CSM.            First safe recovery of astronauts from disabled CSM.            First crew assisted mission to experience engine cutoff.</p>	<p>Apollo 13            [Saturn V AS-508]            [CSM-109 Odyssey]            [LM-7 Aquarius]</p>
01/31/1971	<p>First astronaut to wear red racing stripes on spacesuit [Shepard].            First and only golf ball hit on Moon [Shepard].            First use of mobile equipment transporter.            First use of shortened descent and rendezvous technique.            First extensive orbital science period conducted during CSM solo operations.</p>	<p>Apollo 14            [Saturn V AS-509]            [CSM-110 Kitty Hawk]            [LM-8 Antares]</p>
07/26/1971	<p>First use of Lunar Roving Vehicle on Moon.            First use of Lunar surface navigation device mounted on Rover 1.            First lunar orbital science payload carried in SM bay and operated by CSM pilot.            First ground-controlled remote operation of TV camera on the Moon.            First sub-satellite launched from CSM in lunar orbit.            First space walk from CM during return flight to Earth.            First Apollo all-Air Force crew.            First piece of sculpture on Moon [Fallen Astronaut].</p>	<p>Apollo 15            [Saturn V AS-510]            [CSM-112 Endeavour]            [LRV-1]</p>
04/16/1972	<p>First landing in and exploration of lunar highlands.            First uses of the Moon as an astronomical observatory.</p>	<p>Apollo 16            [Saturn V AS-511]            [CSM-113 Casper]            [LM-11 Orion]            [LRV-2]</p>

DATE	EARLY HUMAN SPACEFLIGHT EVENTS	MISSION
12/07/1972	First scientist [geologist] astronaut in space [H. Schmitt]. First longest single lunar surface excursion. First longest total lunar surface excursion. First longest lunar distance traveled by LRV on one traverse. First nighttime launch.	Apollo 17 [Saturn V AS-512] [CSM-114 America] [LM-12 Challenger] [LRV-3]
05/14/1973	First largest habitable structure placed in orbit [to date]. First time two launch vehicles were on LC-39 pads at the same time. [Skylab 1 & 2]	Skylab 1 [Saturn V AS-513]
05/25/1973	First crew assisted visit to Skylab workshop. First three-man crew to stay in space for 28 days. First major repairs to an orbiting Space Station. First occupancy of a U.S. Space Station & working laboratory. First barber in space [C. Conrad] who gave the first haircut in space to P. Weitz First medical doctor in space [J. Kerwin]	Skylab 2 [Saturn IB AS-206] [CSM-116]
11/16/1973	Was the longest U.S. mission. 1,214 orbits which lasted 84 days, 1 hour, 15 minutes and 32 seconds. First crew to spend Thanksgiving and Christmas in a Space Station workshop environment. [G. Carr/W. Pogue/E. Gibson] First strike in space [astronauts unhappy with workload]. First full beard grown in space. [G. Carr]	Skylab 4 [Saturn IB AS-208] [SM-119]
07/15/1975	First joint Russian and American space venture. First major cooperation between only two nations engaged in crew assisted space flight. First meeting of two crew assisted spacecraft of different nations in space. First docking and first visits by astronauts and cosmonauts into each other's spacecraft. First International crew assisted space flight.	Apollo Soyuz Test Project [ASTP] [Saturn IB AS-210] [CSM-111]

DATE	SPACE SHUTTLE EVENTS	MISSION
06/18/1977	First 747/carrier flight of the Space Shuttle orbiter.	Enterprise
08/12/1977	First crew assisted free flight of a Space Shuttle [F. Haise & G. Fullerton].	Enterprise
12/05-16/1977	First reported successful conclusion for the open sea tests on Shuttle retrieval equipment conducted at Port Everglades, FL.	N/A
03/24/1979	First time a Space Shuttle was transported to its launching base when Columbia arrived at Kennedy Space Center.	Columbia
05/01/1979	First time the complete Space Shuttle configuration was assembled in the VAB & transported to Launch Complex 39A.	Enterprise
02/20/1981	First Flight Readiness Firing [FRF] of Shuttle main engines.	STS 1 [Columbia]
04/12/1981	First flight of Space Transportation System reusable winged space vehicle. First successful retrieval of the Solid Rocket Boosters [SRB] on 4/13/1981. First airplane-like landing of a craft returning from orbit.	STS 1 [Columbia]
11/12/1981	First re-use of a crew assisted space vehicle.	STS 2 [Columbia]
03/22/1982	First Space Shuttle landing at White Sands.	STS 3 [Columbia]
06/27/1982	First Getaway Specials aboard a Shuttle mission. First Space Shuttle landing on a concrete runway. [Edwards AFB]	STS 4 [Columbia]
11/11/1982	First operational STS mission. First deployment of two commercial communications satellites. First spacecraft crew of four. First flight of mission specialist astronauts [J. Allen & W. Lenoir].	STS 5 [Columbia]
04/04/1983	First flight of the orbiter Challenger. First Tracking and Data Relay Satellite successfully deployed. First space walk of Shuttle program [D. Peterson & S. Musgrave]. First flight of the lightweight external tank and lightweight solid rocket booster casings.	STS 6 [Challenger]
06/18/1983	First flight by an American woman astronaut [S. Ride].	STS 7 [Challenger]
08/30/1983	First night launch and landing of a Space Shuttle. First space flight by an African American - [G. Bluford]. First night landing at Edwards Air Force Base.	STS 8 [Challenger]
11/28/1983	First mission of a reusable, scientific research facility [Spacelab-1]. First rollback of orbiter from Launch Complex 39A to Vehicle Assembly Building. First flight with six crew members in single spacecraft. First European Space Agency [ESA] astronaut representative [U. Merbold]. First Non-American astronaut to fly on the Shuttle. [U. Merbold] First Payload Specialist on a Shuttle flight. [B. Lichtenberg]	STS 9 [Columbia]
02/03/1984	First untethered space walks performed in space. [B. McCandless/R. Stewart] First use of the Manned Maneuvering Unit [MMU]. First satellite refurbished & flown again [SPAS]. First Shuttle landing at Kennedy Space Center on 2/11/1984 @ 7:16 am. First woman test conductor during U.S. space launch. [R. Wyrick]	STS 41B [Challenger]
04/06/1984	First in-flight capture, repair and redeployment of an orbiting satellite. [SMM and LDEF]. First direct ascent trajectory for Space Shuttle launch.	STS 41C [Challenger]

DATE	SPACE SHUTTLE EVENTS	MISSION
08/30/1984	First flight of orbiter Discovery. First pad abort at T-4 seconds. First deployment of three satellites on single mission. First flight to include a non-NASA employee crewman [C. Walker]. First industrial payload specialist [C. Walker]	STS 41D [Discovery]
10/05/1984	First space flight to include two women [S. Ride/K. Sullivan]. First American woman to walk in space [K. Sullivan]. First Canadian payload specialist to fly in space [M. Garneau] First oceanographer in space and the first oceanographer to observe the oceans from space [P. Scully-Power] First flight with seven crew members. First time an American astronaut flew four times on a Shuttle mission [R. Crippen].	STS 41G [Challenger]
11/08/1984	First retrieval and return of satellites from Earth orbit First astronaut to capture a satellite [Palapa] by using the MMU [J. Allen].	STS 51A [Discovery]
01/24/1985	First mission totally dedicated to Department of Defense [DOD].	STS 51C [Discovery]
04/12/1985	First Congressional observer to make a space flight [U.S. Sen. E. J. "Jake" Garn (R-Utah)]. First "toys in space" experiment for informal study of the behavior of simple toys in weightless environment. First time a tire was blown during landing [KSC] which prompted future landings at Edwards until implementation of nose wheel steering.	STS 51D [Discovery]
04/29/1985	First operational flight for the European Space Agency Spacelab 3. First flight of animals with Shuttle flight crew – two monkeys and 24 rodents. First flight in space after a 19 year wait after appointment in 1966. [D. Lind] First Dutch astronaut to fly in space. [L. van den Berg]	STS 51B [Challenger]
06/17/1985	First Arabian to fly in space. [S. Al-Saud]	STS 51G [Discovery]
10/03/1985	First flight of orbiter Atlantis.	STS 51J [Atlantis]
10/30/1985	First dedicated German Spacelab mission. First mission to carry 8 crew members First mission in which payload activities were controlled from outside the United States.	STS 61A [Challenger]
11/26/1985	First astronaut from Mexico to fly in space. [R. Neri-Vela] First non-NASA astronaut to make 3 flights and hold the record for most frequent flights in a 15 month period. [C. Walker]	STS 61B [Atlantis]
01/12/1986	First flight of Columbia after major modifications. First Hispanic astronaut to fly in space. [F. R. Chang-Diaz]	STS 61C [Columbia]
01/28/1986	First in-flight accident involving a Space Shuttle. First teacher in space [C. McAuliff]. First Shuttle launch from Launch Complex 39B. First woman astronaut to die during space flight [J. Resnik].	STS 51L [Challenger]
09/29/1988	First flight of Space Shuttle since Challenger accident – Return to Flight. First flight for an all seasoned [no rookies] crew returned to space.	STS 26 [Discovery]
05/04/1989	First U.S. planetary mission in 11 years and the First deep space probe on a Space Shuttle mission [Magellan]. First time a general purpose computer was switched on orbit.	STS 30 [Atlantis]
11/22/1989	First night launch since Return to Flight. First African American to command a space mission. [F. Gregory]	STS 33 [Discovery]

DATE	SPACE SHUTTLE EVENTS	MISSION
02/28/1990	First Shuttle flight delay due to crew member's illness [J. Creighton].	STS 36 [Atlantis]
04/24/1990	First use of carbon brakes at landing. Landed on 4/29/90 at Edwards Air Force Base	STS 31 [Discovery]
04/28/1991	First unclassified Department of Defense [DOD] payload.	STS 39 [Discovery]
08/02/1991	First scheduled landing at Kennedy Space Center since 1986.	STS 43 [Atlantis]
03/24/1992	First flight of the Atmospheric Laboratory for Applications and Science-1 [ATLAS-1] First Belgian astronaut to fly in space [D. Frimout]	STS 45 [Atlantis]
05/07/1992	First flight of orbiter Endeavour. First use of drag chute [parachute] during landing; deployed after nose gear touchdown for data collection only. First time astronauts attached live rocket motor to orbiting satellite. First U.S. orbital flight to feature four EVAs two were longest in U.S. history to date – 8 hours 29 minutes [Thuot/Akers/Thornton/Hieb]. First space flight to involve three crew members simultaneously working outside spacecraft.	STS 49 [Endeavour]
06/25/1992	First Extended Duration Orbiter mission. First flight for orbiter after extensive modifications at Rockwell in California. First flight of the U.S. Microgravity Laboratory-1 [USML-1]. First landing at Kennedy Space Center [KSC] for orbiter. First landing with new synthetic tread tires	STS 50 [Columbia]
07/31/1992	First deployment of a satellite on a long tether in space. [TSS-1] First Italian citizen to fly in space. [F. Malerba]	STS 46 [Atlantis]
09/12/1992	First time drag chute deployed in operational mode before nose gear touchdown. First on-time Shuttle launch since STS 61B in November 1985. First African-American woman to fly in space [M. Jemison]. First married couple to fly in space together [M. Lee & J. Davis]. First Japanese astronaut to fly aboard a Shuttle [M. Mohri].	STS 47 [Endeavour]
01/13/1993	First U. S. Military woman to fly in space. [S. Helms]	STS-54 [Endeavour]
04/08/1993	First Hispanic female astronaut to fly in space. [E. Ochoa]	STS 56 [Discovery]
06/21/1993	First flight of the Spacehab module. [SPACEHAB-1]	STS 57 [Endeavour]
09/12/1993	First Kennedy Space Center [KSC] night landing.	STS 51 [Discovery]
12/02/1993	First Hubble Space Telescope Servicing mission.	STS 61 [Endeavour]
02/03/1994	First flight of a Russian Cosmonaut aboard a Space Shuttle [S. Krikalev]. First flight of the Wake Shield Facility-1	STS 60 [Discovery]
04/09/1994	First flight of Toughened Uni-Piece Fibrous Insulation, known as TUF1, an improved thermal protection tile. First Hispanic Shuttle Commander [Gutierrez]	STS 59 [Endeavour]
07/08/1994	First Japanese woman to fly in space [C. Naito-Mukai]; she also set record for longest flight to date by female astronaut. First time liftoff and re-entry as experienced from crew cabin captured on tape	STS 65 [Columbia]

DATE	SPACE SHUTTLE EVENTS	MISSION
09/20/1994	First untethered U.S. space walk in 10 years [M. Lee & C. Meade]. First flight of Lidar In-space Technology Experiment [LITE].	STS 64 [Discovery]
02/03/1995	First female to pilot a Space Shuttle. [E. Collins]. First approach/fly around with Space Station Mir. Discovery became the first orbiter in the fleet to complete 20 missions. First African-American to walk in space. [B. Harris] First Space Shuttle biological experiment ever to be proposed, developed, processed for flight and conducted completely by KSC employees.	STS 63 [Discovery]
03/18/1995	First advertised Space Shuttle mission connected to an Internet linkup.	STS 67 [Endeavour]
06/27/1995	First docking of a Space Shuttle to Space Station Mir. First on-orbit changeout of Shuttle crew.	STS 71 [Atlantis]
07/13/1995	First use of the newly opened Mission Control Center at Johnson Space Center.	STS 70 [Discovery]
09/07/1995	First time two different payloads were retrieved and deployed during same mission [Spartan 201-03 and Wake Shield Facility-2].	STS 69 [Endeavour]
11/12/1995	First Canadian mission specialist/first Canadian to operate the Canadarm in orbit, and the only Canadian to ever be aboard Mir [C. Hadfield]. First time astronauts from the European Space Agency, Canada, Russia and the U. S. will be in space on the same complex at one time.	STS 74 [Atlantis]
06/20/1996	First recurrence of combustion product penetration into the J-joint of redesigned solid rocket motor [RSRM]. First live downlink video during orbiter's descent.	STS 78 [Columbia]
09/16/1996	First U.S. crew exchange aboard Russian Space Station Mir. First U.S. and world human spaceflight record set [S. Lucid]. Lucid's long duration spaceflight set new U.S. record as well as world record for a woman in space. First flight of the Spacehab Double Module.	STS 79 [Atlantis]
11/19/1996	First time 2 free-flying research spacecraft deployed and retrieved [ORFEUS-SPAS II and the Wake Shield Facility-3].	STS 80 [Columbia]
01/12/1997	First plants to complete a life cycle in space – a crop of wheat grown from seed to seed. First American to conduct a spacewalk from a foreign space station and in a non-American made spacesuit. [J. Linenger] First American to undock from a space station aboard two different spacecraft – U. S. Space Shuttle/Russian Soyuz. [J. Linenger]	STS 81 [Atlantis]
02/11/1997	First time centerline landing lights on Shuttle Landing Facility Runway 15 were used in nighttime landing.	STS 82 [Discovery]
04/04/1997	First flight of the Microgravity Science Laboratory-1 [MSL-1]	STS 83 [Columbia]
07/01/1997	First re-flight of same vehicle, crew and payloads.	STS 94 [Columbia]
09/25/1997	First joint U.S. – Russian extravehicular activity during Shuttle mission. [V. Titov/S. Parazynski]	STS 86 [Atlantis]
11/19/1997	First Heads-Up ascent during first stage of liftoff. First East Indian-born woman to fly in space. [K. Chawla] First Ukrainian to fly in space. [L. Kadenyuk] First Japanese citizen to walk in space. [T. Doi]	STS 87 [Columbia]
01/22/1998	First flight Space Shuttle Main Engine [SSME] Block IIA.	STS 89 [Endeavour]
04/17/1998	First Kennedy Space Center employee to be chosen as an astronaut and to fly on Space Shuttle mission [K. Hire].	STS 90 [Columbia]



DATE	SPACE SHUTTLE EVENTS	MISSION
06/02/1998	First flight of the Super Lightweight External Tank. First docking mission for Discovery. Orbiter docked with the Space Station Mir in the final Shuttle-Mir docking mission.	STS 91 [Discovery]
10/29/1998	First Mercury astronaut to fly in Space Shuttle [U.S. Sen. J. Glenn (Ohio)]. First Space Shuttle launch watched by a U. S. President [B. Clinton]. First astronaut from Spain to fly in space. [P. Duque] First Japanese astronaut to fly twice. [C. Mukai]	STS 95 [Discovery]
07/23/1999	First flight with female mission commander [E. Collins].	STS 93 [Columbia]
12/19/1999	First Space Shuttle crew to spend Christmas in Space [Hubble Space Telescope was released on Christmas day from Discovery's cargo bay after the third servicing].	STS 103 [Discovery]
05/19/2000	First flight of the glass cockpit.	STS 101 [Atlantis]
10/11/2000	First California landing in three years. STS 92 marked the 100 <sup>th</sup> Space Shuttle mission and included the 100th spacewalk in the U.S. space program.	STS 92 [Discovery]
03/05/2001	First time two Shuttles have been ferried simultaneously. [Atlantis returning from Edwards Air Force Base landing at SLF and Columbia returning from Palmdale after modifications landing at Skid Strip].	Atlantis to SLF Columbia to CCAFS
12/05/2001	First Space Station utilization flight. [UF-1] First Latin America Get Away Special canister to fly aboard a Space Shuttle.	STS 108 [Endeavour]
04/08/2002	First human to be launched into space seven times, and holds the current record of the most U.S. spacewalks (nine) and spacewalking time (58 hours and 18 minutes). [J. Ross].	STS 110 [Atlantis]
11/23/2002	First tribal registered Native American astronaut to fly in space. [J. B. Herrington] First Native American astronaut to walk in space. [J. B. Herrington] First American to command five space missions. [J. D. Wetherbee]	STS 113 [Endeavour]
01/16/2003	First Israeli astronaut to fly in space. [I. Ramon]. First re-entry accident involving a Space Shuttle. [02/01/2003]	STS 107 [Columbia]
07/26/2005	First time an astronaut has ridden the robotic arm to inspect the underside of the Space Shuttle. [S. Robinson] First time phone calls were made to astronauts from two world leaders [President of the United States and the Japanese Prime Minister] First use of the new Orbiter Boom Sensor System First-ever "rendezvous pitch maneuver" when Discovery was guided into a slow-motion back flip in order to be photographed by astronauts on board the International Space Station [ISS] [E. Collins] First-ever demonstration of repair techniques on the Shuttle's protective tiles [Thermal Protection System] during an EVA [S. Robinson/S. Noguchi] First-ever on-orbit repair of the Shuttle heat shield by removing two gap fillers during an EVA [S. Robinson] First transmission of a podcast from space. [S. Robinson]	STS 114 [Discovery]
07/04/2006	First ever launch on Independence Day. First Italian American woman to go into space and carried a National Organization of Italian American Women gold pin during her flight. [L. Nowak]	STS 121 [Discovery]

DATE	SPACE SHUTTLE EVENTS	MISSION
08/29/2006	First partial rollback in Space Shuttle program. Shuttle began rollback to VAB due to Tropical Storm Ernesto. However, weather system improved and in middle of rollback, decision was made to stop rollback and bring Atlantis back to LC 39 pad B.	STS 115 [Atlantis]
12/09/2006	First nighttime launch since the year 2002. First astronaut to set a shuttle program record for the most spacewalks performed by one astronaut during a single mission. [R. Curbeam]	STS 116 [Discovery]

*SPECIAL NOTE:* **1997** was the **first** year that there were eight flights and all flights ended with a KSC landing.  
**1997** marked the **first** end-of-mission landing made with the newly installed centerline halogen landing lights on the Shuttle Landing Facility [SLF] [STS 82 – Discovery, Feb 21, 1997].

DATE	SPACE STATION EVENTS	MISSION
12/04/1998	First U.S. Space Station Assembly Flight. (Unity Module - Node 1, PMA1/2)	STS 88 [Endeavour]
05/27/1999	First Canadian to participate in an ISS assembly mission – and - the First Canadian to board the International Space Station. [J. Payette]	STS 96 [Discovery]
10/31/2000	First crew member International Space Station residents [B. Shepherd/Y. Gidzenko/S. Krikalev]. First U. S. astronaut to spend the Christmas holiday aboard the International Space Station – returning on STS 102 which landed 03/21/01 [B. Shepherd].	2R [Soyuz Spacecraft]
03/08/2001	First female International Space Station resident [S. Helms]. First person to operate the Space Station Robotic Manipulator System, Canadarm2 during his stay on the ISS of 163 days [J. Voss] First crew exchange mission to permanently inhabit the International Space Station.	STS 102 [Discovery]
04/19/2001	First Canadian to ever leave a spacecraft and float free in space [C. Hadfield] to help install the Canadian Robot Arm [Space Station Remote Manipulator System (SSRMS)]. First Mobile Service System robotic components delivered to the ISS.	STS 100 [Endeavour]
07/12/2001	First outside spacewalk to originate from the Space Station. First spacewalk from the newly installed Joint Airlock. First flight of the new Block 2 Shuttle main engine.	STS 104 [Atlantis]
10/08/2001	First spacewalk performed from the Space Station without the presence of a Space Shuttle orbiter performed by two Russian cosmonauts [M. Tyurin/V. Dezhurov].	Expedition 3 Crew
10/21/2001	First European woman to spend time at Space Station Alpha [C. Haignere].	Soyuz TM-33 Taxi
12/05/2001	First Utilization Flight [UF1] of the Station program with main objective to transfer hardware into the Space Station and perform the third ISS crew rotation.	STS 108 [Endeavour]
04/08/2002	First mission in the final phase of the ISS Assembly First time the station's robotic arm was used to maneuver spacewalkers around the station First time that all of a Shuttle crew's spacewalks were based from the station's Quest Airlock First American to be launched Into space seven times and to hold the record of the most U.S. spacewalks - nine [J. Ross]	STS 110 [Atlantis]
11/23/2002	First American astronauts to re-enter Earth's atmosphere on a Soyuz spacecraft landing on May 3, 2003. [K. Bowersox/Don Pettit] They were part of Expedition 6 [up] which was launched 11/23/2002. First combined crew exchange and major assembly mission to visit the Space Station.	STS 113 [Endeavour]
04/25/2003- 10/27/2003	First American to launch as the Flight Engineer of a Soyuz spacecraft. [E. Lu] First American to launch and land on a Soyuz Spacecraft. [E. Lu]	Expedition 7 Crew
02/26/2004	First spacewalk outside a space station without a human crewmember inside. [M. Foale/A. Kaleri]	Expedition 8 Crew
06/18/2004	First U. S. astronaut in space during the birth of his child on Earth. [M. Fincke]	Expedition 9 Crew

DATE	SPACE STATION EVENTS	MISSION
06/14/2005	First astronaut-to testify before Congress while in orbit. [J. Phillips]	Expedition 11 Crew
09/11/2006	First Solar Alpha Rotary Joint delivered to the ISS which will deliver enough power to run 16 homes at one time. First major construction flight to the International Space Station since late 2002.	STS 115 [Atlantis]
04/16/2007	First astronaut to run the Boston Marathon by using a treadmill. [S. Williams] Williams was taken to the International Space Station on Flight STS 116, launched December 22, 2006.	Expedition 14 Crew
10/25/2007	First time two female Shuttle commander and a female ISS commander are in space at same time. - greeted each other in space. Commander Peggy Whitson flew to the International Space Station 10/10/2007 in a Soyuz TMA-11 spacecraft. Commander Pamela Melroy was launched on STS 120 docked this date with the ISS.	Expedition 16 Crew STS 120 [Discovery]

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