

Table of Manned Space Flights

SpaceCalc

Total: 251 Crew		Launch	Land	Duration	By Robert A. Braeunig*
Vostok 1	Yuri Gagarin	04/12/61	04/12/61	1h:48m	First manned space flight (1 orbit).
MR 3	Alan Shepard	05/05/61	05/05/61	15m:22s	First American in space (suborbital). Freedom 7.
MR 4	Virgil Grissom	07/21/61	07/21/61	15m:37s	Second suborbital flight; spacecraft sank, Grissom rescued. Liberty Bell 7.
Vostok 2	Guerman Titov	08/06/61	08/07/61	1d:01h:18m	First flight longer than 24 hours (17 orbits).
MA 6	John Glenn	02/20/62	02/20/62	04h:55m	First American in orbit (3 orbits); telemetry falsely indicated heatshield unlatched. Friendship 7.
MA 7	Scott Carpenter	05/24/62	05/24/62	04h:56m	Initiated space flight experiments; manual retrofire error caused 250 mile landing overshoot. Aurora 7.
Vostok 3	Andrian Nikolayev	08/11/62	08/15/62	3d:22h:22m	First twinned flight, with Vostok 4.
Vostok 4	Pavel Popovich	08/12/62	08/15/62	2d:22h:57m	First twinned flight. On first orbit came within 3 miles of Vostok 3.
MA 8	Walter Schirra	10/03/62	10/03/62	09h:13m	Developed techniques for long duration missions (6 orbits); closest splashdown to target to date (4.5 miles). Sigma 7.
MA 9	Gordon Cooper	05/15/63	05/16/63	1d:10h:20m	First U.S. evaluation of effects of one day in space (22 orbits); performed manual reentry after systems failure, landing 4 miles from target. Faith 7.
Vostok 5	Valeri Bykovsky	06/14/63	06/19/63	4d:23h:08m	Second twinned flight, with Vostok 6.
Vostok 6	Valentina Tereshkova	06/16/63	06/19/63	2d:22h:51m	First woman in space; passed within 3 miles of Vostok 5.
X-15/Flight 90	Joseph Walker	07/19/63	07/19/63	<15m	First rocket-powered aircraft to reach space (FAI definition); sub-orbital reaching 347,800 feet (106,010 m) altitude.
X-15/Flight 91	Joseph Walker	08/22/63	08/22/63	<15m	Rocket-powered aircraft; sub-orbital reaching 354,200 feet (107,960 m) altitude.
Voskhod 1	Vladimir Komarov, Konstantin Feoktistov, Boris Yegorov	10/12/64	10/13/64	1d:00h:17m	Modified Vostok; first three man crew in space; first without space suits.

Voskhod 2	Pavel Belyayev, Alexei Leonov	03/18/65	03/19/65	1d:02h:02m	Modified Vostok; first spacewalk by Leonov (10 min) via inflatable airlock.
Gemini 3	Virgil Grissom, John Young	03/23/65	03/23/65	04h:53m	First American two man crew; first piloted spacecraft to change its orbital path; first computer, allowing onboard calculation of manoeuvres.
Gemini 4	James McDivitt, Edward White	06/03/65	06/07/65	4d:01h:56m	First American spacewalk by White (21 min); first US 4-day flight; manual reentry made after computer failure.
Gemini 5	Gordon Cooper, Charles Conrad	08/21/65	08/29/65	7d:22h:55m	First use of fuel cells for electric power; evaluated guidance and navigation system.
Gemini 7	Frank Borman, James Lovell	12/04/65	12/18/65	13d:18h:35m	Longest US flight for 8 years (206 orbits), record until Soyuz 9; rendezvous with Gemini 6.
Gemini 6	Walter Schirra, Thomas Stafford	12/15/65	12/16/65	1d:01h:51m	First manned rendezvous, to within 6 feet of Gemini 7 (as planned Agena was lost).
Gemini 8	Neil Armstrong, David Scott	03/16/66	03/17/66	10h:41m	First docking (with Agena) of one space vehicle with another; emergency reentry after control malfunction; first Pacific landing.
Gemini 9	Thomas Stafford, Eugene Cernan	06/03/66	06/06/66	3d:00h:21m	127 min EVA by Cernan; rendezvous but no docking with target; landed 1/2 mile from recovery ship.
Gemini 10	John Young, Michael Collins	07/18/66	07/21/66	2d:22h:47m	Docked with Agena 10 and used engine to attain record 474 mile (763 km) altitude; rendezvous with Agena 8; 39 min EVA by Collins.
Gemini 11	Charles Conrad, Richard Gordon	09/12/66	09/15/66	2d:23h:17m	Used Agena engine to attain record 850 mile (1369 km) altitude; 163 min EVA by Gordon, connected Gemini and Agena by tether; first automatic computer-guided reentry.
Gemini 12	James Lovell, Edwin Aldrin	11/11/66	11/15/66	3d:22h:35m	Final Gemini mission; Agena docking; record 5.5 hours of EVA by Aldrin, first work carried out during a EVA; automatic computer-guided reentry.
Soyuz 1	Vladimir Komarov	04/23/67	04/24/67	1d:02h:48m	Retroparachute failed to open, causing cosmonaut to be killed.
Apollo 7	Walter Schirra, Donn Eisele, Walter Cunningham	10/11/68	10/22/68	10d:20h:09m	First piloted flight of Apollo spacecraft, command-service module only; first US 3-man flight; live TV footage of crew.
Soyuz 3	Georgi Beregovoi	10/26/68	10/30/68	3d:22h:51m	Rendezvous with unmanned Soyuz 2.

Apollo 8	Frank Borman, James Lovell, William Anders	12/21/68	12/27/68	6d:03h:01m	First manned lunar orbit and piloted lunar return reentry (CSM only); first manned Saturn V; views of lunar surface televised to Earth.
Soyuz 4	Vladimir Shatalov, Aleksei Yeliseyev (down), Yevgeni Khrunov (down)	01/14/69	01/17/69	2d:23h:21m	First docking of two piloted spacecraft, with Soyuz 5.
Soyuz 5	Boris Volynov, Aleksei Yeliseyev (up), Yevgeni Khrunov (up)	01/15/69	01/18/69	3d:00h:54m	Docked with Soyuz 4; Yeliseyev and Khrunov transferred by EVA to Soyuz 4.
Apollo 9	James McDivitt, David Scott, Russell Schweickart	03/03/69	03/13/69	10d:01h:01m	First piloted flight of lunar module (Earth orbit); 56 min Schweickart EVA tested lunar suit.
Apollo 10	Thomas Stafford, John Young, Eugene Cernan	05/18/69	05/26/69	8d:00h:03m	First lunar module orbit of Moon, descent to within 50,000 feet (15,000 meters) of Moon's surface; holds manned speed record, 6.8863 mi/s (11.0825 km/s) at atmosphere entry.
Apollo 11	Neil Armstrong, Michael Collins, Edwin Aldrin	07/16/69	07/24/69	8d:03h:19m	First lunar landing made by Armstrong and Aldrin (20-Jul); 151 min lunar EVA; collected 48.5 lb (22 kg) of soil & rock samples; lunar stay time 21h:36m.
Soyuz 6	Georgi Shonin, Valeri Kubasov	10/11/69	10/16/69	4d:22h:43m	Rendezvous with Soyuz 7/8; first welding of metals in space.
Soyuz 7	Anatoli Filipchenko, Vladislav Volkov, Viktor Gorbatko	10/12/69	10/17/69	4d:22h:40m	Triple rendezvous with Soyuz 6/8; space lab construction test made; first time 3 spacecraft, 7 crew members orbited the Earth at once.
Soyuz 8	Vladimir Shatalov, Aleksei Yeliseyev	10/13/69	10/18/69	4d:22h:51m	Triple rendezvous with Soyuz 6/7; part of space lab construction team.
Apollo 12	Charles Conrad, Richard Gordon, Alan Bean	11/14/69	11/24/69	10d:04h:36m	Conrad and Bean made second Moon landing; 2 lunar EVAs totalling 465 min; collected 74.7 lb (33.9 kg) of samples; lunar stay time 31h:31m.
Apollo 13	James Lovell, John Swigart, Fred Haise	04/11/70	04/17/70	5d:22h:55m	Mission aborted following service module oxygen tank explosion; crew returned safely using lunar module; circumlunar return; holds manned altitude record, 248,665 miles (400,187 km) above Earth's surface.
Soyuz 9	Andrian Nikolayev, Vitali Sevastyanov	06/01/70	06/19/70	17d:16h:59m	This flight marked the beginning of working in space under weightless conditions; endurance record for solo craft remains.

Apollo 14	Alan Shepard, Stuart Roosa, Edgar Mitchell	01/31/71	02/09/71	9d:00h:02m	Shepard and Mitchell made third Moon landing; 2 lunar EVAs totalling 563 min; collected 96 lb (43.5 kg) of lunar samples; lunar stay time 33h:31m.
Salyut 1	Unmanned space station	04/19/71	10/11/71	175d	First space station; occupied by Soyuz 11 crew for 23 days.
Soyuz 10	Vladimir Shatalov, Aleksei Yeliseyev, Nikolai Rukavishnikov	04/22/71	04/24/71	1d:23h:46m	Adjustment of an improved docking bay between the spacecraft and the orbiting Salyut space station, but no cosmonauts entered the orbiting station.
Soyuz 11	Georgi Dobrovolsky, Vladislav Volkov, Viktor Patsayev	06/06/71	06/29/71	23d:18h:22m	Docked and entered Salyut 1 space station; orbited in Salyut 1 for 23 days; crew died during reentry from loss of pressurization.
Apollo 15	David Scott, Alfred Worden, James Irwin	07/26/71	08/07/71	12d:07h:12m	Scott and Irwin made fourth Moon landing; first lunar rover use; first deep spacewalk; 3 lunar EVAs totalling 19h:8m; collected 170 lb (77 kg) of samples; lunar stay time 66h:54m; 38 min Worden EVA; subsatellite released.
Apollo 16	John Young, Thomas Mattingly, Charles Duke	04/16/72	04/27/72	11d:01h:51m	Young and Duke made fifth Moon landing; 3 lunar EVAs totalling 20h:14m; collected 213 lb (97 kg) of lunar samples; lunar stay time 71:14; subsatellite released
Apollo 17	Eugene Cernan, Ronald Evans, Harrison Schmitt	12/07/72	12/19/72	12d:13h:52m	Cernan and Schmitt made sixth piloted lunar landing; 3 lunar EVAs totalling 22h:4m; collected 243 lb (110 kg) of samples; record lunar stay of 74:59; 66 min Evans EVA.
Skylab 1	Unmanned space station	05/14/73	07/11/73	2,249d	First U.S. space station; occupied by Skylab 2, 3 & 4 crews.
Skylab 2	Charles Conrad, Joseph Kerwin, Paul Weitz	05/25/73	06/22/73	28d:00h:50m	First American piloted orbiting space station; made long-flight tests, crew repaired damage caused during boost; 2 EVAs + SEVA.
Skylab 3	Alan Bean, Owen Garriott, Jack Lousma	07/28/73	09/25/73	59d:11h:10m	Crew systems and operational tests, exceeded pre-mission plans for scientific activities; 3 EVAs totalling 13:44.
Soyuz 12	Vasili Lazarev, Oleg Makarov	09/27/73	09/29/73	1d:23h:16m	After Soyuz 11 accident, new life support equipment was tested.
Skylab 4	Gerald Carr, Edward Gibson, William Pogue	11/16/73	02/08/74	84d:01h:15m	Final Skylab mission; endurance record until Soyuz 29-Salyut 6; 4 EVAs, set then-record spacewalk of 7h:1m.

Soyuz 13	Pyotr Klimuk, Valentin Lebedev	12/18/73	12/26/73	7d:20h:56m	Astrophysical observations made with Orion ultraviolet telescope; Earth is photographed.
Salyut 3	Unmanned space station	06/25/74	01/24/75	213d	2nd space station; occupied by Soyuz 14 crew. Sole occupation of Salyut 3 (no docking). Failed to dock with Salyut 3 because of Soyuz systems failures; first return to Earth during the night.
Soyuz 14	Pavel Popovich, Yuri Artyukhin	07/03/74	07/19/74	15d:17h:30m	
Soyuz 15	Gennadi Sarafanov, Lev Demin	08/26/74	08/28/74	2d:00h:12m	
Soyuz 16	Anatoli Filipchenko, Nikolai Rukavishnikov	12/02/74	12/08/74	5d:22h:24m	
Salyut 4	Unmanned space station	12/26/74	02/03/77	770d	3rd space station; occupied by 2 crews for 93 days.
Soyuz 17	Aleksey Gubarev, Georgi Grechko	01/10/75	02/09/75	29d:13h:20m	First Salyut 4 occupation; Soviet endurance record.
Soyuz 18A	Vasili Lazarev, Oleg Makarov	04/05/75	04/05/75	21m:27s	Launch to Salyut 4 aborted when stage 1 failed to separate; 14g reentry.
Soyuz 18B	Pyotr Klimuk, Vitali Sevastyanov	05/24/75	07/26/75	62d:23h:20m	2nd Salyut 4 occupation; Soviet endurance record.
Soyuz 19-ASTP	Alexei Leonov, Valeri Kubasov	07/15/75	07/21/75	5d:22h:31m	First U.S./USSR joint flight; docked with Apollo 18 for 2 days; conducted experiments, shared meals, and held a joint news conference.
Apollo 18-ASTP	Vance Brand, Thomas Stafford, Donald Slayton	07/15/75	07/24/75	9d:01h:28m	Joint flight with Soyuz 19.
Salyut 5	Unmanned space station	06/22/76	08/08/77	412d	4th space station; occupied by 2 crews for 65 days.
Soyuz 21	Boris Volynov, Vitali Zholobov	07/06/76	08/24/76	49d:06h:24m	First Salyut 5 occupation (48 days); acid fumes forced return.
Soyuz 22	Valeri Bykovsky, Vladimir Aksyonov	09/15/76	09/23/76	7d:21h:52m	Spacecraft was modified to enable the crew to photograph the Earth.
Soyuz 23	Vyacheslav Zudov, Valeri Rozhdestvensky	10/14/76	10/16/76	2d:00h:07m	Docking between the spacecraft and Salyut 5 failed; first Soviet splashdown after emergency return.
Soyuz 24	Viktor Gorbatko, Yuri Glazkov	02/07/77	02/25/77	17d:17h:26m	2nd Salyut 5 occupation.
Salyut 6	Unmanned space station	09/29/77	07/28/82	1763d	5th space station; occupied for 676 days by 5 long stay + 11 visiting crews.
Soyuz 25	Vladimir Kovalyonok, Valeri Ryumin	10/09/77	10/11/77	2d:00h:45m	The planned manual docking with Salyut 6

Soyuz 26	Yuri Romanenko (up), Georgi Grechkon (up), Vladimir Dzhanibekov (down), Oleg Makarov (down)	12/10/77	01/16/78	37d:10h:06m	First Salyut 6 occupation, returned in Soyuz 27; Progress 1 resupplies the orbiting complex.
Soyuz 27	Vladimir Dzhanibekov (up), Oleg Makarov (up), Yuri Romanenko (down), Georgi Grechkon (down)	01/10/78	03/16/78	64d:22h:53m	First space station dual occupancy; returned in Soyuz 26.
Soyuz 28	Aleksey Gubarev, Vladimir Remek	03/02/78	03/10/78	7d:22h:16m	First international crew (USSR and Czechoslovakia), to Salyut 6.
Soyuz 29	Vladimir Kovalyonok (up), Aleksandr Ivanchenkov (up), Vladimir Bykovsky (down), Sigmund Jaehn (down)	06/15/78	09/03/78	79d:15h:24m	First 100+ day flight, to Salyut 6; returned in Soyuz 31: Progress 2, 3 & 4 resupply the orbiting complex.
Soyuz 30	Pyotr Klimuk, Miroslav Hermaszewski	06/27/78	07/05/78	7d:22h:03m	2nd international crew (USSR and Poland), to Salyut 6.
Soyuz 31	Vladimir Bykovsky (up), Sigmund Jaehn (up), Vladimir Kovalyonok (down), Aleksandr Ivanchenkov (down)	08/26/78	11/02/78	67d:20h:13m	3rd international crew (USSR and East Germany), to Salyut 6; returned in Soyuz 29.
Soyuz 32	Vladimir Lyakhov (up), Valeri Ryumin (up), unmanned (down)	02/25/79	06/13/79	108d:04h:25m	Cosmonauts board Salyut 6; endurance record; returned in Soyuz 34: Progress 5, 6 and 7 resupply the orbiting complex.
Soyuz 33	Nikolai Rukavishnikov, Georgi Ivanov	04/10/79	04/12/79	1d:23h:01m	4th international crew (USSR and Bulgaria); failed to dock with Salyut 6 after engine failure.
Soyuz 34	Unmanned (up), Vladimir Lyakhov (down), Valeri Ryumin (down)	06/06/79	08/19/79	73d:18h:17m	Delivered for Soyuz 32 crew return to compensate for Soyuz 33 failure.
Soyuz 35	Leonid Popov (up), Valeri Ryumin (up), Valeri Kubasov (down), Bertalan Farkas (down)	04/19/80	06/03/80	55d:01h:28m	4th Salyut 6 long stay; endurance record; returned in Soyuz 37: Progress 8, 9 and 11 resupply the orbiting complex.
Soyuz 36	Valeri Kubasov (up), Bertalan Farkas (up), Viktor Gorbatko (down), Pham Tuan (down)	05/26/80	07/31/80	65d:20h:54m	5th international crew (USSR and Hungary), to Salyut 6; returned to Soyuz 35.
Soyuz T-2	Yuri Malyshev, Vladimir Aksyonov	06/05/80	06/09/80	3d:22h:20m	First manned space flight of the new spacecraft; manual docking with Salyut 6.
Soyuz 37	Viktor Gorbatko (up), Pham Tuan (up), Leonid Popov (down), Valeri Ryumin (down)	07/23/80	10/11/80	79d:15h:17m	6th international crew (USSR and Vietnam), to Salyut 6; returned in Soyuz 36.
Soyuz 38	Yuri Romanenko, Arnaldo Tamayo Mendez	09/18/80	09/26/80	7d:20h:43m	7th international crew (USSR and Cuba), to Salyut 6.

Soyuz T-3	Leonid Kizim, Oleg Makarov, Gennadi Strekalov	11/27/80	12/10/80	12d:19h:08m	Resumption of 3-man flights; Salyut 6 repair work: Progress 11 resupplies the orbiting complex.
Soyuz T-4	Vladimir Kovalyonok, Viktor Savinykh	03/12/81	05/26/81	74d:17h:37m	Last Salyut 6 long-stay; 50th Soviet/100th spaceman: Progress 12 resupplies the orbiting complex.
Soyuz 39	Vladimir Dzhanibekov, Jugderdemidiyn Gurragcha	03/22/81	03/30/81	7d:20h:42m	8th international crew (USSR and Mongolia), to Salyut 6.
STS-1/Columbia	John Young, Robert Crippen	04/12/81	04/14/81	2d:06h:22m	First space shuttle flight; orbital test flight; some thermal tiles lost.
Soyuz 40	Leonid Popov, Dumitru Prunariu	05/14/81	05/22/81	7d:21h:42m	9th international crew (USSR and Romania), to Salyut 6; last flight of old Soyuz design.
STS-2/Columbia	Joseph Engle, Richard Truly	11/12/81	11/14/81	2d:06h:14m	First reuse of space shuttle; 2nd orbital test flight; test of Canadian robot arm (RMS); 5-day mission halved by fuel cell fault.
STS-3/Columbia	Jack Lousma, Gordon Fullerton	03/22/82	03/30/82	8d:00h:06m	Third orbital test flight; first experiments; payload: astronomy; landing delayed 1 day by storm.
Salyut 7	Unmanned space station	04/19/82	02/07/91	3216d	6th space station; occupied for 812 days by 10 crews.
Soyuz T-5	Anatoli Berezovoi (up), Valentin Lebedev (up), Leonid Popov (down), Aleksandr Serebrov (down), Svetlana Savitskaya	05/13/82	08/27/82	106d:05h:06m	First Salyut 7 occupation + long stay; returned in Soyuz T-7: Progress 13, 14, 15 and 16 resupply the orbiting complex.
Soyuz T-6	Vladimir Dzhanibekov, Aleksandr Ivanchenkov, Jean-Loup Chretien	06/24/82	07/02/82	7d:21h:51m	10th international crew (USSR and France), to Salyut 7.
STS-4/Columbia	Thomas Mattingly, Henry Hartsfield	06/27/82	07/04/82	7d:01h:11m	Last orbital test flight; first concrete runway landing; SRBs lost; beginning of operations; payload: military.
Soyuz T-7	Leonid Popov (up), Aleksandr Serebrov (up), Svetlana Savitskaya (up), Anatoli Berezovoi (down), Valentin Lebedev (down)	08/19/82	12/10/82	113d:01h:51m	Salyut 7 visit; Savitskaya is 2nd woman in space; returned in Soyuz T-5.
STS-5/Columbia	Vance Brand, Robert Overmyer, Joseph Allen, William Lenoir	11/11/82	11/16/82	5d:02h:15m	First operational space shuttle mission; first 4-person crew; depolyed 2 communications satellites (COMSATs); EVA cancelled.
STS-6/Challenger	Paul Weitz, Karol Bobko, Donald Peterson, Story Musgrave	04/04/83	04/09/83	5d:00h:25m	First Challenger flight; first shuttle EVA; Tracking & Data Relay Satellite (TDRS).

Soyuz T-8	Vladimir Titov, Gennadi Strekalov, Aleksandr Serebrov	04/20/83	04/22/83	2d:00h:18m	Failed to dock with Salyut 7 for long stay; radar failed and manual approach aborted.
STS-7/Challenger	Robert Crippen, Frederick Hauck, John Fabian, Sally Ride, Norman Thagard	06/18/83	06/24/83	6d:02h:25m	Ride first U.S. woman in space; first 5-person crew; 2 COMSATs, German platform SPAS-1.
Soyuz T-9	Vladimir Lyakhov, Aleksandr Pavlovich Aleksandrov	06/27/83	11/23/83	149d:10h:46m	Salyut 7 long stay; 2 EVAs added 2 solar panels: Progress 18 resupplies the orbiting complex.
STS-8/Challenger	Richard Truly, Daniel Brandenstein, Dale Gardner, Guion Bluford, William Thornton	08/30/83	09/05/83	6d:01h:10m	Bluford first U.S. black in space; first night launch/ landing; 1 communications satellite deployed.
Soyuz T-10A	Vladimir Titov, Gennadi Strekalov	09/26/83	09/26/83	05m:13s	Launchpad fire, first use of escape tower. Descent module re-used by T-15.
STS-9/Columbia	John Young, Brewster Shaw, Owen Garriott, Robert Parker, Byron Lichtenberg, Ulf Merbold	11/28/83	12/08/83	10d:07h:48m	Merbold first German on U.S. mission; first 6-person crew; first Spacelab Mission (SL-1).
41-B/Challenger	Vance Brand, Robert Gibson, Bruce McCandless, Ronald McNair, Robert Stewart	02/03/84	02/11/84	7d:23h:17m	First untethered EVA & testing of MMU jetpack; first Kennedy Space Center landing; 2 COMSATs.
Soyuz T-10B	Leonid Kizim (up), Vladimir Solovyov (up), Oleg Atkov (up), Yuri Malyshev (down), Gennadi Strekalov (down), Rakesh Sharma (down)	02/08/84	04/11/84	62:22h:41m	First long-stay triple crew, to Salyut 7; 6 EVAs totalling 22h:56m; returned in Soyuz T-11.
Soyuz T-11	Yuri Malyshev (up), Gennadi Strekalov (up), Rakesh Sharma (up), Leonid Kizim (down), Vladimir Solovyov (down), Oleg Atkov (down)	04/03/84	10/02/84	181d:21h:49m	11th international crew (USSR and India), to Salyut 7; returned in Soyuz T-10B.
41-C/Challenger	Robert Crippen, Francis Scobee, George Nelson, James van Hoften, Terry Hart	04/06/84	04/13/84	6d:23h:41m	First in-orbit satellite retrieval/repair (SMM); LDEF deployment.
Soyuz T-12	Vladimir Dzhanibekov, Svetlana Savitskaya, Igor Volk	07/17/84	07/29/84	11d:19h:15m	Salyut 7 visit; Savitskaya makes first EVA by a woman (3h:45m).
41-D/Discovery	Henry Hartsfield, Michael Coats, Judith Resnik, Steven Hawley, Richard Mullane, Charles Walker	08/30/84	09/05/84	6d:00h:57m	First flight of Discovery; first commercial payload specialist; 3 communications satellites.

41-G/Challenger	Robert Crippen, Jon McBride, Kathryn Sullivan, Sally Ride, David Leestma, Marc Garneau, Paul Scully-Power	10/05/84	10/13/84	8d:05h:25m	Garneau first Canadian in space; first 7-person crew; first U.S. woman EVA; first 2-women flight; Environmental satellite ERBS.
51-A/Discovery	Frederick Hauck, David Walker, Anna Fisher, Dale Gardner, Joseph Allen	11/08/84	11/16/84	7d:23h:46m	First satellite retrieval/return; 2 COMSATs.
51-C/Discovery	Thomas Mattingly, Loren Shriver, Ellison Onizuka, James Buchli, Gary Payton	01/24/85	01/27/85	3d:01h:34m	First mission dedicated to Dept. of Defense (DOD); classified military payload deployed; 100th manned orbital mission.
51-D/Discovery	Karol Bobko, Donald Williams, Rhea Seddon, Jeffery Hoffman, David Griggs, Charles Walker, Jake	04/12/85	04/19/85	6d:23h:56m	Garn first U.S. senator in space; 2 COMSATs, EVA to repair Syncom IV satellite.
51-B/Challenger	Robert Overmyer, Frederick Gregory, Don Lind, Norman Thagard, William Thornton, Lodewijk van den Berg, Taylor	04/29/85	05/06/85	7d:00h:10m	2nd Spacelab science mission; 1 satellite released .
Soyuz T-13	Vladimir Dzhaniybekov, Viktor Savinykh (up), Georgi Grechko (down)	06/06/85	09/26/85	112d:03h:12m	Reactivation of Salyut 7; Savinykh stayed with Soyuz T-14 crew: Progress 24 resupplies the station.
51-G/Discovery	Daniel Brandenstein, John Creighton, Shannon Lucid, John Fabian, Steven Nagel, Patrick Baudry, Sultan Salman Al-Saud	06/17/85	06/24/85	7d:01h:40m	Salman Al-Saud first Arab in space; Baudry first French person on U.S. mission; 3 communications satellites.
51-F/Challenger	Gorden Fullerton, Roy Bridges, Story Musgrave, Anthony England, Karl Henize, Loren Acton, John-David Bartoe	07/29/85	08/06/85	7d:22h:46m	3rd Spacelab astronomy/science mission.
51-I/Discovery	Joseph Engle, Richard Covey, James van Hoften, John Lounge, William Fisher	08/27/85	09/03/85	7d:02h:18m	3 COMSATs, EVA to repair Syncom IV satellite.
Soyuz T-14	Vladimir Vasyutin, Aleksandr Volkov, Georgi Grechko (up), Viktor Savinykh (down)	09/17/85	11/21/85	64d:21h:52m	Salyut 7; first mission to be ended by illness (Vasyutin); Grechko returned with Soyuz T-13.
51-J/Atlantis	Karol Bobko, Ronald Grabe, David Hilmers, Robert Stewart, William Pailes	10/03/85	10/07/85	4d:01h:46m	First flight of Atlantis; 2nd DOD mission: details classified.

61-A/Challenger	Henry Hartsfield, Steven Nagel, James Buchli, Guion Bluford, Bonnie Dunbar, Reinhard Furrer, Ernst Messerschmid, Wubbo Ockeis	10/30/85	11/06/85	7d:00h:46m	First 8-person crew; 1st German Spacelab mission (D1).
61-B/Atlantis	Brewster Shaw, Bryan O'Conner, Mary Cleave, Sherwood Spring, Jerry Ross, Rodolfo Neri Vela, Charles Walker	11/27/85	12/03/85	6d:21h:06m	Neri first Mexican in space; 3 COMSATs, space structures assembly test.
61-C/Columbia	Robert Gibson, Charles Bolden, Franklin Chang-Diaz, Steven Hawley, George Nelson, Robert Cenker, Bill Nelson	01/12/86	01/18/86	6d:02h:05m	Bill Nelson first U.S. congressman in space; 1 COMSAT, material & astronomy experiments.
51-L/Challenger	Francis Scobee, Michael Smith, Judith Resnik, Ellison Onizuka, Ronald McNair, Gregory Jarvis, Christa McAuliffe	01/28/86	None	01m:13s	Exploded during liftoff, all were killed.
Mir	Unmanned space station	02/20/86	03/23/01	5,510d	New-generation space station with 6 docking ports; occupied by multiple crews.
Soyuz T-15	Leonid Kizim, Vladimir Solovyov	03/13/86	07/16/86	125d:00h:01m	First Mir occupation; excursion to Salyut 7 5-May to 26-Jun; two Salyut EVAs totalling 8h:50m; re-used descent module from T-10A abort.
Soyuz TM-2	Aleksandr Laveykin, Yuri Romanenko (up), Aleksandr Viktorenko (down), Mohammed Faris (down)	02/05/87	07/30/87	174d:03h:26m	2nd Mir long stay; Romanenko remained at station and set new endurance record; Romanenko returned in Soyuz TM-3.
Soyuz TM-3	Aleksandr Pavlovich Aleksandrov, Aleksandr Viktorenko (up), Mohammed Faris (up), Yuri Romanenko (down), Anatoli Levchenko (down)	07/22/87	12/29/87	160d:07h:17m	Mir visit; Aleksandrov remained at station replacing Laveykin.
Soyuz TM-4	Vladimir Titov (up), Musa Manarov (up), Anatoli Levchenko (up), Anatoliy Solovyov (down), Viktor Savinykh (down), Aleksandr Panayotov Aleksandrov (down)	12/21/87	06/17/88	178d:22h:54m	3rd Mir long stay occupation; Titov/Manarov swapped with Romanenko/Aleksandrov; endurance record; 3 EVAs totalling 13h:40m; returned in Soyuz TM-6.

Soyuz TM-5	Anatoliy Solovyov (up), Viktor Savinykh (up), Aleksandr Panayotov Aleksandrov (up), Vladimir Lyakhov (down), Abdul Mohmand (down)	06/07/88	09/07/88	91d:10h:46m	Mir visit; all returned in Soyuz TM-4.
Soyuz TM-6	Vladimir Lyakhov (up), Valeri Polyakov (up), Abdul Mohmand (up), Vladimir Titov (down), Musa Manarov (down), Jean-Loup Chretien (down)	08/29/88	12/21/88	114d:05h:34m	4th Mir long stay; physician Polyakov remained with Titov/Manarov.
STS-26/Discovery	Frederick Hauck, Richard Covey, John Lounge, George Nelson, David Hilmers	09/29/88	10/03/88	4d:01h:01m	Redesigned shuttle makes first flight; Tracking/Data Relay Satellite TDRS-C.
Soyuz TM-7	Aleksandr Volkov, Sergei Krikalyov, Jean-Loup Chretien (up), Valeri Polyakov (down)	11/26/88	04/27/89	151d:11h:08m	5th Mir long stay; Volkov/Krikalyov swapped with Titov/Manarov; Chretien EVA, returned in Soyuz TM-6; Volkov/Krikalyov in TM-7.
STS-27/Atlantis	Robert Gibson, Guy Gardner, Richard Mullane, Jerry Ross, William Shepherd	12/02/88	12/06/88	4d:09h:06m	3rd DOD mission; first Lacrosse imaging radar satellite for all-weather day/night reconnaissance.
STS-29/Discovery	Michael Coats, John Blaha, James Bagian, James Buchli, Robert Springer	03/13/89	03/18/89	4d:23h:40m	Data Relay Satellite TDRS-D, experiments.
STS-30/Atlantis	David Walker, Ronald Grabe, Norman Thagard, Mary Cleave, Mark Lee	05/04/89	05/08/89	4d:00h:58m	Magellan Venus orbiter launched on IUS stage, arrived Venus Aug 1990.
STS-28/Columbia	Brewster Shaw, Richard Richards, James Adamson, David Leestma, Mark Brown	08/08/89	08/13/89	5d:01h:01m	4th DOD mission; deployed military satellite for relaying reconnaissance satellite imagery?
Soyuz TM-8	Aleksandr Viktorenko, Aleksandr Serebrov	09/05/89	02/19/90	166d:06h:58m	5th Mir long stay; received Kvant 2; 5 EVAs including 2 with manoeuvring backpack.
STS-34/Atlantis	Donald Williams, Michael McCulley, Franklin Chang-Diaz, Shannon Lucid, Ellen Baker	10/18/89	10/23/89	4d:23h:40m	Galileo Jupiter orbiter launched on IUS stage, arrived Jupiter Dec 1995.
STS-33/Discovery	Frederick Gregory, John Blaha, Story Musgrave, Manley Carter, Kathryn Thornton	11/23/89	11/28/89	5d:00h:08m	5th DOD mission; deployed intelligence satellite?
STS-32/Columbia	Daniel Brandenstein, James Wetherbee, Bonnie Dunbar, David Low, Marsha Ivins	01/09/90	01/20/90	10d:21h:02m	Deployed 1 COMSAT, retrieved/returned Long Duration Exposure Facility (LDEF).

Soyuz TM-9	Anatoliy Solovyov, Aleksandr Balandin	02/11/90	08/09/90	179d:01h:18m	6th Mir long stay; received Kristall; two EVAs.
STS-36/Atlantis	John Creighton, John Casper, Richard Mullane, David Hilmers, Pierre Thuot	02/28/90	03/04/90	4d:10h:19m	6th DOD mission; deployed reconnaissance satellite.
STS-31/Discovery	Loren Shriver, Charles Bolden, Steven Hawley, Bruce McCandless, Kathryn Sullivan	04/24/90	04/29/90	5d:01h:17m	Deployed Hubble Space Telescope (HST); set Shuttle altitude record of 385 miles (619 km).
Soyuz TM-10	Gennadi Manakov, Gennadi Strekalov, Toyohiro Akiyama (down)	08/01/90	12/10/90	130d:20h:36m	7th Mir long stay; emphasised Kristall materials processing, one EVA.
STS-41/Discovery	Richard Richards, Robert Cabana, William Shepherd, Bruce Melnick, Thomas Akers	10/06/90	10/10/90	4d:02h:11m	Ulysses solar probe launched on IUS stage.
STS-38/Atlantis	Richard Covey, Frank Culbertson, Robert Springer, Carl Meade, Charles Gemar	11/15/90	11/20/90	4d:21h:55m	7th DOD mission; deployed intelligence satellite?
STS-35/Columbia	Vance Brand, Guy Gardner, Jeffery Hoffman, John Lounge, Robert Parker, Samuel Durrance, Ronald Parise	12/02/90	12/11/90	8d:23h:06m	Astronomy Spacelab ASTRO, UV/X-ray telescopes.
Soyuz TM-11	Viktor Afanasyev, Musa Manarov, Toyohiro Akiyama (up), Helen Sharman (down)	12/02/90	05/26/91	175d:01h:51m	8th Mir long stay; 4 EVAs; Akiyama (Japan) returned in Soyuz TM-10.
STS-37/Atlantis	Steven Nagel, Kenneth Cameron, Jerry Ross, Jay Apt, Linda Godwin	04/05/91	04/11/91	5d:23h:34m	Deployed Gamma Ray Observatory (GRO); 2 EVAs (first since 1985).
STS-39/Discovery	Michael Coats, Blaine Hammond, Guion Bluford, Gregory Harbaugh, Richard Hieb, Donald McMonagle, Charles Veach	04/28/91	05/06/91	8d:07h:23m	Infrared astronomy experiments.
Soyuz TM-12	Anatoli Artsebarsky, Sergei Krikalyov (up), Helen Sharman (up), Toktar Aubakirov (down), Franz Viehboeck (down)	05/18/91	10/10/91	144d:15h:22m	9th Mir long stay; Sharman (UK) returned in Soyuz TM-11, Artsebarsky in TM-12, Krikalyov in TM-13; 6 EVAs totalling 31h:58m.
STS-40/Columbia	Bryan O'Conner, Sidney Gutierrez, Rhea Seddon, James Bagian, Tamara Jernigan, Drew Gaffney, Millie Hughes-Fulford	06/05/91	06/14/91	9d:02h:15m	First Spacelab for Life Sciences (SLS-1); first dedicated life sciences research.

STS-43/Atlantis	John Blaha, Michael Baker, Shannon Lucid, James Adamson, David Low	08/02/91	08/11/91	8d:21h:22m	Tracking/Data Relay Satellite TDRS-E; Lucid first woman to make 3 flights.
STS-48/Discovery	John Creighton, Kenneth Reightler, James Buchli, Charles Gemar, Mark Brown	09/12/91	09/18/91	5d:08h:28m	Upper Atmosphere Research Satellite (UARS) deployed.
Soyuz TM-13	Aleksandr Volkov, Toktar Aubakirov (up), Franz Viehboeck (up), Sergei Krikalyov (down), Klaus-Dietrich Flade (down)	10/02/91	03/25/92	175d:02h:52m	10th Mir long stay; first mission with 2 researchers; Viehboeck (Austria) & Aubakirov (Kazakh) returned in Soyuz TM-12, Volkov in TM-13; one EVA.
STS-44/Atlantis	Frederick Gregory, Terrence Henricks, Story Musgrave, Mario Runco, James Voss, Thomas Hennen	11/24/91	12/01/91	6d:22h:52m	DOD satellite, contaminations research.
STS-42/Discovery	Ronald Grabe, Stephen Oswald, Norman Thagard, David Hilmers, William Readdy, Roberta Bondar, Ulf Merbold	01/22/92	01/30/92	8d:01h:16m	Spacelab International Microgravity Laboratory (IML-1).
Soyuz TM-14	Aleksandr Viktorenko, Aleksandr Kaleri, Klaus-Dietrich Flade (up), Michel Tognini (down)	03/17/92	08/10/92	145d:14h:11m	11th Mir long stay; Flade (Germany), returned in Soyuz TM-13; Viktorenko/ Kaleri in TM-14; 123m EVA.
STS-45/Atlantis	Charles Bolden, Brian Duffy, Kathryn Sullivan, David Leestma, Michael Foale, Byron Lichtenberg, Dirk Frimout	03/24/92	04/02/92	8d:22h:10m	Atmospheric Lab for Applications & Science (ATLAS-1).
STS-49/Endeavour	Daniel Brandenstein, Kevin Chilton, Pierre Thuot, Kathryn Thornton, Richard Hieb, Thomas Akers, Bruce Melnick	05/07/92	05/16/92	8d:21h:19m	First Endeavour flight; 4 EVAs by 4 crew totalling duration record 60.1 manhours; first 3-person EVA; Intelsat-VI recovery and redeployment.
STS-50/Columbia	Richard Richards, Kenneth Bowersox, Bonnie Dunbar, Ellen Baker, Carl Meade, Lawrence DeLucas, Eugene Trinh	06/25/92	07/09/92	13d:19h:31m	US Microgravity Laboratory (USML-1); first Extended Duration Orbiter (EDO); Shuttle duration record.
Soyuz TM-15	Anatoliy Solovyov, Sergei Avdeyev, Michel Tognini (up)	07/27/92	02/01/93	188d:21h:41m	12th Mir long stay; Tognini (France) returned in Soyuz TM-14, Solovyov/ Avdeyev in TM-15; 4 EVAs totalling 18h:21m.

STS-46/Atlantis	Loren Shriver, Andrew Allen, Jeffery Hoffman, Franklin Chang-Diaz, Claude Nicollier, Marsha Ivins, Franco Malerba	07/31/92	08/08/92	7d:23h:16m	EURECA platform deployment; tether experiment TSS-1.
STS-47/Endeavour	Robert Gibson, Curtis Brown, Mark Lee, Jan Davis, Jay Apt, Mae Jemison, Mamoru Mohri	09/12/92	09/20/92	7d:22h:31m	50th shuttle mission; Jemison 1st black woman in space; Mohri 1st Japanese national; Lee & Davis 1st married couple to travel together in space; first Japanese Spacelab (SL-J).
STS-52/Columbia	James Wetherbee, Michael Baker, Charles Veach, William Shepherd, Tamara Jernigan, Steven MacLean	10/22/92	11/01/92	9d:20h:57m	Deployment of LAGEOS 2; US Microgravity Payload (USMP); materials experiments.
STS-53/Discovery	David Walker, Robert Cabana, Guion Bluford, James Voss, Michael Clifford	12/02/92	12/09/92	7d:07h:21m	Last DOD mission; DOD satellite deployed; laser experiment.
STS-54/Endeavour	John Casper, Donald McMonagle, Mario Runco, Gregory Harbaugh, Susan Helms	01/13/93	01/19/93	5d:23h:39m	Deployment of TDRS-F, Differential X-ray Experiment (DXS), 268 min EVA.
Soyuz TM-16	Gennadi Manakov, Aleksandr Polishchuk, Jean-Pierre Haignere (down)	01/24/93	07/22/93	179d:00h:44m	13th Mir long stay; first docking with Kristall androgynous port; two EVAs.
STS-56/Discovery	Kenneth Cameron, Stephen Oswald, Michael Foale, Kenneth Cockrell, Ellen Ochoa	04/08/93	04/17/93	9d:06h:09m	Crew included the 300th human in space; Ochoa 1st Hispanic woman in space; 2nd Atmospheric Mission ATLAS-2, SPARTAN-2.
STS-55/Columbia	Steven Nagel, Terrence Henricks, Jerry Ross, Charles Precourt, Bernard Harris, Ulrich Walter, Hans Schlegel	04/26/93	05/06/93	9d:23h:41m	2nd German Spacelab mission (D2); Earth observation & astronomy experiments; Shuttle program exceeded 1 year aggregate flight time.
STS-57/Endeavour	Ronald Grabe, Brian Duffy, David Low, Nancy Sherlock, Peter Wisoff, Janice Voss	06/21/93	07/01/93	9d:23h:46m	First Spacehab; EURECA retrieval; GAS; EVA.
Soyuz TM-17	Vasili Tsibliyev, Aleksandr Serebrov, Jean-Pierre Haignere (up)	07/01/93	01/14/94	196d:17h:45m	14th Mir long stay; Haignere (France) returned in Soyuz TM-16, Tsibliyev/ Serebrov in TM-17; five EVAs.
STS-51/Discovery	Frank Culbertson, William Readdy, James Newman, Daniel Bursch, Carl Walz	09/12/93	09/22/93	9d:20h:12m	Adv. Comsat ACTS/TOS deployed; ORFEUS-SPAS; EVA; first KSC night landing.

STS-58/Columbia	John Blaha, Richard Searfoss, Rhea Seddon, William McArthur, David Wolf, Shannon Lucid, Martin Fettman	10/18/93	11/01/93	14d:00h:14m	First dissection in space; 2nd Spacelab for Life Sciences (SLS-2); 2nd EDO, record duration.
STS-61/Endeavour	Richard Covey, Kenneth Bowersox, Story Musgrave, Kathryn Thornton, Claude Nicollier, Jeffery Hoffman, Thomas Akers	12/02/93	12/13/93	10d:19h:59m	First Hubble Space Telescope servicing mission; 5 EVAs for 4 crew totalling 35h:28m; Akers set new U.S. EVA duration record (29h:40m).
Soyuz TM-18	Viktor Afanasyev, Yuri Usachyov, Valeri Polyakov (up)	01/08/94	07/09/94	182d:00h:27m	15th Mir long stay; physicist Polyakov remained aboard for record duration, returning with Soyuz TM-20.
STS-60/Discovery	Charles Bolden, Kenneth Reightler, Jan Davis, Ronald Sega, Franklin Chang-Diaz, Sergei Krikalyov	02/03/94	02/11/94	8d:07h:10m	Krikalyov was first Russian on U.S. shuttle; attempt to deploy the Wake Shield Facility (a device to create vacuums in space) failed; Spacehab 2.
STS-62/Columbia	John Casper, Andrew Allen, Pierre Thuot, Charles Gemar, Marsha Ivins	03/04/94	03/18/94	13d:23h:18m	Microgravity Payload USMP-2; OAST-2; SSBUV/A; DEE; 3rd EDO.
STS-59/Endeavour	Sidney Gutierrez, Kevin Chilton, Linda Godwin, Jay Apt, Michael Clifford, Thomas Jones	04/09/94	04/20/94	11d:05h:50m	First flight of Space Radar Lab; mapped 20% of Earth surface in three dimensions; environmental studies conducted; CONCAP-IV; GAS; NIH-Experiments; Endeavour made record 412 manoeuvres.
Soyuz TM-19	Yuri Malenchenko, Talgat Musabayev, Ulf Merbold (down)	07/01/94	11/04/94	125d:22h:54m	16th Mir long stay, two EVAs.
STS-65/Columbia	Robert Cabana, James Halsell, Richard Hieb, Carl Walz, Leroy Chiao, Donald Thomas, Chiaki Mukai	07/08/94	07/23/94	14d:17h:56m	2-day flight of International Microgravity Laboratory IML-2; more than 80 experiments conducted; 4th EDO, record duration.
STS-64/Discovery	Richard Richards, Blaine Hammond, Jerry Linenger, Susan Helms, Carl Meade, Mark Lee	09/09/94	09/20/94	10d:22h:51m	Laser experiment LITE; SPARTAN-3; SAFER (EVA); ROMPS.
STS-68/Endeavour	Michael Baker, Terrence Wilcutt, Thomas Jones, Steven Smith, Daniel Bursch, Peter Wisoff	09/30/94	10/11/94	11d:05h:47m	Space Radar Lab SRL-2; GAS; Stamps; secondary payloads.
Soyuz TM-20	Aleksandr Viktorenko, Yelena Kondakova, Ulf Merbold (up), Valeri Polyakov (down)	10/04/94	03/22/95	169d:05h:22m	17th Mir long stay; Merbold (ESA) returned with Soyuz TM-19.

STS-66/Atlantis	Donald McMonagle, Curtis Brown, Ellen Ochoa, Scott Parazynski, Joseph Tanner, Jean-Francois Clervoy	11/03/94	11/14/94	10d:22h:35m	Atmospheric Mission ATLAS-3; CRISTA/SPAS; ESCAPE-2.
STS-63/Discovery	James Wetherbee, Eileen Collins, Michael Foale, Janice Voss, Bernard Harris, Vladimir Titov	02/03/95	02/11/95	8d:06h:30m	Rendezvous with Mir, Spacehab 3, first female pilot (Collins); 2nd Cosmonaut; SPARTAN-4; EVA.
STS-67/Endeavour	Stephen Oswald, William Gregory, Tamara Jernigan, John Grunsfeld, Wendy Lawrence, Ronald Parise, Samuel Durrance	03/02/95	03/18/95	16d:15h:10m	2nd UV Astronomy Spacelab (ASTRO-2); 5th EDO, record duration.
Soyuz TM-21	Vladimir Dezhurov (up), Gennadi Strekalov (up), Norman Thagard (up), Anatoliy Solovyov (down), Nikolai Budarin (down)	03/14/95	09/11/95	181d:00h:41m	18th Mir long stay; Thagard first NASA researcher; all crew returning on NASA Shuttle STS-71; three EVAs.
STS-71/Atlantis	Robert Gibson, Charles Precourt, Ellen Baker, Bonnie Dunbar, Gregory Harbaugh, Anatoliy Solovyov (up), Nikolai Budarin (up), Vladimir Dezhurov (down), Gennadi Strekalov (down), Norman Thagard (down)	06/27/95	07/07/95	9d:19h:23m	First Mir docking/crew exchange, 100th US human space flight, Spacelab carried.
STS-70/Discovery	Terrence Henricks, Kevin Kregel, Nancy Currie, Donald Thomas, Mary Weber	07/13/95	07/22/95	8d:22h:21m	Deployed TDRS-G; crystal growth and biological experiments.
Soyuz TM-22	Yuri Gidzenko, Sergei Avdeyev, Thomas Reiter	09/03/95	02/29/96	179d:01h:42m	20th Mir long stay; ESA researcher Reiter performed 2 EVAs.
STS-69/Endeavour	David Walker, Kenneth Cockrell, James Voss, James Newman, Michael Gernhardt	09/07/95	09/18/95	10d:20h:30m	Wake Shield Facility (2nd flight); SPARTAN; 30th Shuttle EVA.
STS-73/Columbia	Kenneth Bowersox, Kent Rominger, Kathryn Thornton, Catherine Coleman, Michael Lopez-Alegria, Fred Leslie, Albert Sacco	10/20/95	11/05/95	15d:21h:53m	Spacelab USML-2; educational experiments; 6th EDO.
STS-74/Atlantis	Kenneth Cameron, James Halsell, Jerry Ross, William McArthur, Chris Hadfield	11/12/95	11/20/95	8d:04h:32m	Mir-Docking/2; delivered docking unit for future Shuttle missions & new solar arrays.

STS-72/Endeavour	Brian Duffy, Brent Jett, Leroy Chiao, Daniel Barry, Winston Scott, Koichi Wakata	01/11/96	01/20/96	8d:22h:02m	Retrieved SFU Space Flyer Unit, SPARTAN/OAST Flyer, two EVAs.
Soyuz TM-23	Yuri Onufrienko, Yuri Usachyov, Claudie Andre-Deshays (down)	02/21/96	09/02/96	193d:19h:08m	21st Mir long stay; 6 EVAs totalling 30h:31m.
STS-75/Columbia	Andrew Allen, Scott Horowitz, Franklin Chang-Diaz, Maurizio Cheli, Jeffery Hoffman, Claude Nicollier, Umberto Guidoni	02/22/96	03/09/96	15d:17h:41m	Microgravity Payload USMP-3; Tether Satellite TSS-1R; OARE; 7th EDO.
STS-76/Atlantis	Kevin Chilton, Richard Searfoss, Linda Godwin, Michael Clifford, Ronlad Sega, Shannon Lucid (up)	03/22/96	03/31/96	9d:05h:17m	Mir-Docking/3; Spacehab short module; delivered Lucid for Mir stay; EVA mounted experiments on Mir's docking module.
STS-77/Endeavour	John Casper, Curtis Brown, Daniel Bursch, Mario Runco, Marc Garneau, Andrew Thomas	05/19/96	05/29/96	10d:00h:40m	Inflatable Antenna Experiment (IAE); Spacehab 4; PAMS; SPARTAN; TEAMS.
STS-78/Columbia	Terrence Henricks, Kevin Kregel, Susan Helms, Richard Linnehan, Charles Brady, Jean-Jacques Favier, Robert Thirsk	06/20/96	07/07/96	16d:21h:49m	Life & Microgravity Science Spacelab (LMS); SAREX-II; 8th EDO, record duration.
Soyuz TM-24	Valeri Korzun, Aleksandr Kaleri, Claudie Andre-Deshays (up), Reinhold Ewald (down)	08/17/96	03/02/97	196d:17h:26m	22nd Mir long stay; Andre-Deshays (France) returned in Soyuz TM-23; two EVAs.
STS-79/Atlantis	William Readdy, Terrence Wilcutt, Thomas Akers, Jay Apt, Carl Walz, John Blaha (up), Shannon Lucid (down)	09/16/96	09/26/96	10d:03h:20m	Mir-Docking/4; Spacehab double module; crew exchange (Blaha/Lucid); Lucid set new U.S. space endurance record (188d:4h); EVA.
STS-80/Columbia	Kenneth Cockrell, Kent Rominger, Tamara Jernigan, Thomas Jones, Story Musgrave	11/19/96	12/07/96	17d:15h:54m	Wake Shield Facility (3rd flight); ORFEUS-SPAS II; Space Experiment Module (SEM); EVA; 9th EDO, record duration.
STS-81/Atlantis	Michael Baker, Brent Jett, Peter Wisoff, John Grunsfeld, Marsha Ivins, Jerry Linenger (up), John Blaha (down)	01/12/97	01/22/97	10d:04h:56m	Mir-Docking/5; Spacehab-DM; SAREX-II; crew exchange (Linenger/Blaha).
Soyuz TM-25	Vasili Tsibliyev, Aleksander Lazutkin, Reinhold Ewald (up)	02/10/97	08/14/97	184d:22h:08m	23rd Mir long stay; Ewald (Germany) returned in Soyuz TM-24; collision with Progress 25-Jun-97; one EVA.

STS-82/Discovery	Kenneth Bowersox, Scott Horowitz, Joseph Tanner, Steven Hawley, Gregory Harbaugh, Mark Lee, Steven Smith	02/11/97	02/21/97	9d:23h:38m	2nd Hubble Space Telescope servicing mission; 5 EVAs for 4 crew totalling 33h:11m, replaced 10 instruments.
STS-83/Columbia	James Halsell, Susan Still, Janice Voss, Michael Gernhardt, Donald Thomas, Roger Crouch, Greg Linteris	04/04/97	04/08/97	3d:23h:14m	Microgravity Science Lab MSL-1 (returned 12 days early due to fuel cell problem); Reflight as STS-94.
STS-84/Atlantis	Charles Precourt, Eileen Collins, Jean-Francois Clervoy, Carlos Noriega, Edward Lu, Yelena Kondakova, Michael Foale (up), Jerry Linenger (down)	05/15/97	05/24/97	9d:05h:21m	Mir-Docking/6; Spacehab-DM; crew exchange (Linenger/Foale).
STS-94/Columbia	James Halsell, Susan Still, Janice Voss, Michael Gernhardt, Donald Thomas, Roger Crouch, Greg Linteris	07/01/97	07/17/97	15d:16h:46m	Microgravity Science Lab MSL-1 reflight.
Soyuz TM-26	Anatoliy Solovyov, Pavel Vinogradov, Leopold Eyharts (down)	08/05/97	02/19/98	197d:17h:35m	24th Mir long stay; 7 EVAs to repair damage caused by Progress collision.
STS-85/Discovery	Curtis Brown, Kent Rominger, Jan Davis, Robert Curbeam, Stephen Robinson, Bjarni Tryggvason	08/07/97	08/19/97	11d:20h:28m	CRISTA/SPAS II; Japanese Manipulaor (MFD); small payloads.
STS-86/Atlantis	James Wetherbee, Michael Bloomfield, Scott Parazynski, Vladimir Titov, Jean-Loup Chretien, Wendy Lawrence, David Wolf (up), Michael Foale (down)	09/25/97	10/06/97	10d:19h:22m	Mir-Docking/7; Spacehab-DM; crew exchange (Foale/Wolf).
STS-87/Columbia	Kevin Kregel, Steve Lindsey, Kalpana Chawla, Winston Scott, Takao Doi, Leonid Kadenyuk	11/19/97	12/05/97	15d:16h:35m	Microgravity Payload USMP-4; SPARTAN-201; 2 EVAs; small payloads.
STS-89/Endeavour	Terrence Wilcutt, Joe Edwards, James Reilly, Michael Anderson, Bonnie Dunbar, Salizhan Sharipov, Andrew Thomas (up), David Wolf (down)	01/23/98	01/31/98	8d:19h:48m	Mir-Docking/8; Spacehab-DM; crew exchange (Wolf/Thomas).
Soyuz TM-27	Talgat Musabayev, Nikolai Budarin, Leopold Eyharts (up), Yuri Baturin (down)	01/29/98	08/25/98	207d:12h:51m	25th Mir long stay; Eyharts (France) returned in Soyuz TM-26; 5 EVAs.

STS-90/Columbia	Richard Searfoss, Scott Altman, Kathryn Hire, Richard Linnehan, Dafydd Williams, Jay Buckey, James Pawelczyk	04/17/98	05/03/98	15d:21h:51m	Neurolab (16th Spacelab); bioreactor; small payloads (GAS).
STS-91/Discovery	Charles Precourt, Dominic Gorie, Wendy Lawrence, Franklin Chang-Diaz, Janet Kavandi, Valeri Ryumin, Andrew Thomas (down)	06/02/98	06/12/98	9d:19h:55m	Mir-Docking/9; Spacehab-SM; returned Thomas; first GAS payload.
Soyuz TM-28	Gennadi Padalka, Sergei Avdeyev (up), Yuri Baturin (up), Ivan Bella (down)	08/13/98	02/28/99	198d:16h:31m	26th Mir long stay; Baturin returned in Soyuz TM-27; Avdeyev remained aboard Mir; one EVA.
STS-95/Discovery	Curtis Brown, Steve Lindsey, Scott Parazynski, Stephen Robinson, Pedro Duque, Chiaki Mukai, John Glenn	10/29/98	11/07/98	8d:21h:45m	Spacehab-SM, SPARTAN-201; John Glenn reflight.
STS-88/Endeavour	Robert Cabana, Frederick Sturckow, Nancy Currie, Jerry Ross, James Newman, Sergei Krikalyov	12/04/98	12/16/98	11d:19h:19m	1st International Space Station (ISS) assembly flight 2A, Unity Module; 3 EVAs for 2 crew totalling 21h:22m; first habitation of ISS.
Soyuz TM-29	Viktor Afanasyev, Jean-Pierre Haignere, Ivan Bella (up), Sergei Avdeyev (down)	02/20/99	08/28/99	188d:20h:16m	27th Mir long stay; Bella returned in Soyuz TM-28; returned Avdeyev; three EVAs.
STS-96/Discovery	Kent Rominger, Rick Husband, Ellen Ochoa, Tamara Jernigan, Daniel Barry, Julie Payette, Valeri Tokarev	05/27/99	06/06/99	9d:19h:14m	2nd ISS assembly flight 2A.1, Spacehab-DM, Starshine; first docking with ISS; 1 EVA for 2 crew totalling 7h:55m.
STS-93/Columbia	Eileen Collins, Jeffrey Ashby, Steven Hawley, Catherine Coleman, Michel Tognini	07/23/99	07/28/99	4d:22h:50m	Deployed Chandra/AXAF; first female commander (Collins).
STS-103/Discovery	Curtis Brown, Scott Kelly, Steven Smith, Michael Foale, John Grunsfeld, Claude Nicollier, Jean-Francois Clervoy	12/20/99	12/28/99	7d:23h:12m	3rd Hubble Space Telescope servicing mission; 3 EVAs for 4 crew totalling 24h:33m.
STS-99/Endeavour	Kevin Kregel, Dominic Gorie, Janet Kavandi, Janice Voss, Mamoru Mohri, Gerhard Thiele	02/11/00	02/22/00	11d:05h:40m	Shuttle Radar Topography Mission (SRTM); used radar systems to obtain high-resolution digital topographic database of Earth.
Soyuz TM-30	Sergei Zalyetin, Aleksandr Kalen	04/04/00	06/16/00	72d:19h:42m	28th & final Mir long stay; reactivated Mir under contract with MirCorp (a private concern); returned 16-Jun-00.

STS-101/Atlantis	James Halsell, Scott Horowitz, Mary Weber, Jeffrey Williams, James Voss, Susan Helms, Yuri Usachyov	05/19/00	05/29/00	9d:20h:10m	3rd ISS assembly flight 2A.2a, Spacehab-DM; 1 EVA for 2 crew totalling 6h:44m.
STS-106/Atlantis	Terrence Wilcutt, Scott Altman, Daniel Burbank, Edward Lu, Richard Mastracchio, Yuri Malenchenko, Boris Morukov	09/08/00	09/20/00	11d:19h:12m	4th ISS assembly flight 2A.2b, Spacehab-DM; 1 EVA for 2 crew totalling 6h:14m.
STS-92/Discovery	Brian Duffy, Pamela Melroy, Koichi Wakata, Leroy Chiao, Peter Wisoff, Michael Lopez-Alegria, William McArthur	10/11/00	10/24/00	12d:21h:44m	5th ISS assembly flight 3A, PMA-3, IMAX; 4 EVAs for 4 crew totalling 27h:19m.
Soyuz TM-31	Sergei Krikalyov (up), Yuri Gidzenko (up), William Shepherd (up), Talgat Musabayev (down), Yuri Baturin (down), Dennis Tito (down)	10/31/00	05/06/01	186d:21h:49m	Delivered Expedition 1 crew (Shepherd, Gidzenko, Krikalyov), first ISS extended stay totalling 136 days on ISS; returned on STS-102.
STS-97/Endeavour	Brent Jett, Michael Bloomfield, Joseph Tanner, Carlos Noriega, Marc Garneau	12/01/00	12/11/00	10d:19h:58m	6th ISS assembly flight 4A, PV Module P6; 3 EVAs for 2 crew totalling 19h:20m.
STS-98/Atlantis	Kenneth Cockrell, Mark Polansky, Robert Curbeam, Thomas Jones, Marsha Ivins	02/07/01	02/20/01	12d:21h:21m	7th ISS assembly flight 5A, US Lab; 3 EVAs for 2 crew totalling 19h:49m, final EVA 100th in U.S. history.
STS-102/Discovery	James Wetherbee, James Kelly, Andrew Thomas, Paul Richards, Yuri Usachyov (up), James Voss (up), Susan Helms (up), William Shepherd (down), Yuri Gidzenko (down), Sergei Krikalyov (down)	03/08/01	03/21/01	12d:19h:51m	8th ISS assembly flight 5A.1, MPLM; delivered Expedition 2 crew (Usachyov, Voss, Helms), returned Expedition 1 crew (Shepherd, Gidzenko, Krikalyov); 2 EVAs for 4 crew totalling 15h:17m.
STS-100/Endeavour	Kent Rominger, Jeffrey Ashby, Chris Hadfield, Scott Parazynski, John Phillips, Umberto Guidoni, Yuri Lonchakov	04/19/01	05/01/01	11d:21h:31m	9th ISS assembly flight 6A, Canadarm2, Raffaello MPLM; 2 EVAs for 2 crew totalling 14h:50m.
Soyuz TM-32	Talgat Musabayev (up), Yuri Baturin (up), Dennis Tito (up), Victor Afanasyev (down), Konstantin Kozeyev (down), Claudie Haignere (down)	04/28/01	10/31/01	185d:21h:23m	Exchanged Soyuz TM-32 for TM-31 to serve ISS as emergency escape vehicle; Tito first space "tourist" having paid \$20 million for trip.

STS-104/Atlantis	Steve Lindsey, Charles Hobaugh, Michael Gernhardt, James Reilly, Janet Kavandi	07/12/01	07/25/01	12d:18h:37m	10th ISS assembly flight 7A, ISS Airlock.
STS-105/Discovery	Scott Horowitz, Frederick Sturckow, Daniel Barry, Patrick Forrester, Frank Culbertson (up), Vladimir Dezhurov (up), Mikhail Tyurin (up), Yuri Usachyov (down), James Voss (down), Susan Helms (down)	08/10/01	08/22/01	11d:21h:14m	11th ISS assembly flight 7A.1, Leonardo MPLM; delivered Expedition 3 crew (Culbertson, Dezhurov, Tyurin), returned Expedition 2 crew (Usachyov, Voss, Helms); 2 EVAs for 2 crew totalling 11h:45m.
Soyuz TM-33	Victor Afanasyev (up), Konstantin Kozeyev (up), Claudie Haignere (up), Yuri Gidzenko (down), Roberto Vittori (down), Mark Shuttleworth (down)	10/21/01	05/05/02	195d:18h:52m	Exchanged Soyuz TM-33 for TM-32 to serve ISS as emergency escape vehicle.
STS-108/Endeavour	Dominic Gorie, Mark Kelly, Linda Godwin, Daniel Tani, Yuri Onufrienko (up), Carl Walz (up), Daniel Bursch (up), Frank Culbertson (down), Vladimir Dezhurov (down), Mikhail Tyurin (down)	12/05/01	12/17/01	11d:19h:37m	ISS utilization flight UF-1, Raffaello MPLM, GAS, MACH-1; delivered Expedition 4 crew (Onufrienko, Walz, Bursch), returned Expedition 3 crew (Culbertson, Dezhurov, Tyurin); 1 EVA for 2 crew totalling 4h:12m.
STS-109/Columbia	Scott Altman, Duane Carey, John Grunsfeld, Nancy Currie, James Newman, Richard Linnehan, Michael Massimino	03/01/02	03/12/02	10d:22h:11m	4th Hubble Space Telescope servicing mission, Advanced Camera for Surveys (ACS).
STS-110/Atlantis	Michael Bloomfield, Stephen Frick, Jerry Ross, Steven Smith, Ellen Ochoa, Lee Morin, Rex Walheim	04/08/02	04/19/02	10d:19h:44m	ISS assembly flight 8A, Center Integrated Truss Assembly S0 (ITS S0), Mobile Transporter (MT).
Soyuz TM-34	Yuri Gidzenko (up), Roberto Vittori (up), Mark Shuttleworth (up), Sergei Zalyotin (down), Frank De Winne (down), Yuri Lonchakov (down)	04/25/02	11/10/02	198d:17h:38m	Exchanged Soyuz TM-34 for TM-33 to serve ISS as emergency escape vehicle; Shuttleworth first South African in space and 2nd space tourist.
STS-111/Endeavour	Kenneth Cockrell, Paul Lockhart, Franklin Chang-Diaz, Philippe Perrin, Valeri Korzun (up), Sergei Treschev (up), Peggy Whitson (up), Yuri Onufrienko (down), Carl Walz (down), Daniel Bursch (down)	06/05/02	06/19/02	13d:20h:36m	ISS utilization flight UF-2, MPLM, Mobile Base System (MBS); delivered Expedition 5 crew (Korzun, Treschev, Whitson), returned Expedition 4 crew (Onufrienko, Walz, Bursch).

STS-112/Atlantis	Jeffrey Ashby, Pamela Melroy, David Wolf, Piers Sellers, Sandra Magnus, Fyodor Yurchikhin	10/07/02	10/18/02	10d:19h:59m	ISS assembly flight 9A, Integrated Truss Assembly S1 (ITS S1), Crew Equipment Translation Aid (CETA).
Soyuz TMA-1	Sergei Zalyotin (up), Frank De Winne (up), Yuri Lonchakov (up), Nikolai Budarin (down), Kenneth Bowersox (down), Donald Pettit (down)	10/30/02	05/04/03	185d:22h:56m	Exchanged Soyuz TMA-1 for TM-34 to serve ISS as emergency escape vehicle; returned Expedition 6 crew (Bowersox, Budarin, Pettit).
STS-113/Endeavour	James Wetherbee, Paul Lockhart, Michael Lopez-Alegria, John Herrington, Kenneth Bowersox (up), Nikolai Budarin (up), Donald Pettit (up), Valeri Korzun (down), Sergei Treschev (down), Peggy Whitson (down)	11/24/02	12/07/02	13d:18h:49m	ISS assembly flight 11A, Integrated Truss Assembly P1 (ITS P1), CETA; delivered Expedition 6 crew (Bowersox, Budarin, Pettit), returned Expedition 5 crew (Korzun, Treschev, Whitson).
STS-107/Columbia	Rick Husband, William McCool, Michael Anderson, Kalpana Chawla, David Brown, Laurel Clark, Ilan Ramon	01/16/03	02/01/03	15d:22h:20m	Spacehab-DM, Freestar; Ramon first Israeli in space; orbiter broke up during reentry resulting in the loss of both vehicle and crew.
Soyuz TMA-2	Yuri Malenchenko, Edward Lu, Pedro Duque (down)	04/26/03	10/27/03	183d:22h:47m	Exchanged Soyuz TMA-2 for TMA-1 to serve ISS as emergency escape vehicle; delivered & returned Expedition 7 crew (Malenchenko, Lu).
Shenzhou 5	Yang Liwei	10/15/03	10/15/03	21h:23m	First Chinese manned flight (14 orbits).
Soyuz TMA-3	Aleksandr Kaleri, Michael Foale, Pedro Duque (up), Andre Kuipers (down)	10/18/03	04/30/04	194d:18h:33m	Exchanged Soyuz TMA-3 for TMA-2 to serve ISS as emergency escape vehicle; delivered & returned Expedition 8 crew (Foale, Kaleri).
Soyuz TMA-4	Gennadi Padalka, E. Michael Fincke, Andre Kuipers (up), Yuri Shargin (down)	04/19/04	10/24/04	187d:21h:16m	Exchanged Soyuz TMA-4 for TMA-3 to serve ISS as emergency escape vehicle; delivered & returned Expedition 9 crew (Padalka, Fincke).
SpaceShipOne	Michael Melvill	06/21/04	06/21/04	1h:30m	First privately funded, non-government manned space flight; suborbital reaching 328,491 feet (100,124 m) altitude.
SpaceShipOne	Michael Melvill	09/29/04	09/29/04	1h:23m	First of two flights to claim Ansari X-prize; suborbital reaching 337,569 feet (102,891 m) altitude.
SpaceShipOne	Brian Binnie	10/04/04	10/04/04	1h:27m	Second of two flights to claim Ansari X-prize; suborbital reaching 367,442 feet (111,997 m) setting rocket-plane altitude record.

Soyuz TMA-5	Saliszan Sharipov, Leroy Chiao, Yuri Shargin (up), Roberto Vittori (down)	10/14/04	04/24/05	192d:19h:02m	Exchanged Soyuz TMA-5 for TMA-4 to serve ISS as emergency escape vehicle; delivered & returned Expedition 10 crew (Chiao, Sharipov).
Soyuz TMA-6	Sergei Krikalyov, John Phillips, Roberto Vittori (up)	04/15/05	TBD	TBD	Exchanged Soyuz TMA-6 for TMA-5 to serve ISS as emergency escape vehicle; delivered Expedition 11 crew (Krikalyov, Phillips).
STS-114/Discovery	Eileen Collins, James Kelly, Stephen Robinson, Soichi Noguchi, Andrew Thomas, Wendy Lawrence, Charles Camarda	TBD	TBD	TBD	First post-Columbia shuttle mission. Objectives include ISS CMG changeout, ESPAD installation, TILE/RCC repair demos, ISS resupply with MPLM.
Total: 251	* Source: http://www.braeunig.us/space (used with permission)				