APPENDIX A-3

Successful Launches to Orbit on U.S. Launch Vehicles
October 1, 1995–September 30, 1996

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Oct. 20, 1995 Space Shuttle *Columbia* (STS-73) 56A Space Shuttle	Carry out microgravity experiments in the U.S. Microgravity Laboratory Spacelab.	~267 km 1 hour 30 minutes 39°	
Oct. 22, 1995 EHF-F6 (USA 114) (UFO-6) 57A Atlas II*	Military UHF communications.	27,571 km 277 km 7 hours 59 minutes 27°	
Nov. 4, 1995 RADARSAT 59A Delta II	Remote sensing.	790 km 785 km 1 hour 41 minutes 98.6°	Canadian spacecraft.
Nov. 4, 1995 SURFSAT 59B Delta II	Summer Undergraduate Research Fellowship Satellite.	1,495 km 935 km 1 hour 50 minutes 100.6°	Microsatellite to assist tests of Deep Space Network. Launched from second stage of Delta II.
Nov. 6, 1995 Milstar 2 (USA 115) 60A Titan IV	Military communications.	Geosynchronous	
Nov. 12, 1995 Space Shuttle *Atlantis* (STS-74) 61A Space Shuttle	Install Docking Module on the *Mir* space station and provide logistic support.	396 km 391 km 1 hour 32 minutes 51.6°	Second of 9 planned flights to *Mir*.
Dec. 2, 1995 SOHO 65A Atlas Centaur IIAS	Solar and Heliospheric Observatory on space physics mission.	Orbits the Sun	European Space Agency-NASA spacecraft to examine the Sun and its corona.
Dec. 5, 1995 USA 116 66A Titan IV	Classified military reconnaissance.	976 km 156 km 1 hour 36 minutes 97.8° (data estimated by Itar-Tass agency)	Reported to be member of Keyhole constellation.
Dec 14, 1995 Galaxy 3-R 69A Atlas IIA*	Commercial communications satellite.	Geosynchronous	

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(Continued)

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1995–September 30, 1996

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Dec. 30, 1995 RXTE 74A Delta II	Rossi X-ray Timing Explorer, an astrophysics mission.	583 km 565 km 1 hour 36 minutes 22.9°	
Jan. 11, 1996 Space Shuttle *Endeavour* (STS-72) 1A Space Shuttle	Retrieve Japanese Space Flyer Unit; deploy and retrieve OAST Flyer.	459 km 176 km 1 hour 31 minutes 28.5°	Also carried microgravity and life sciences payloads.
Jan. 14, 1996 OAST Flyer 1B Space Shuttle	Small spacecraft sponsored by NASA's Office of Aeronautics and Space Technology.	307 km 303 km 1 hour 31 minutes 28.5°	Carried four experiments to measure spacecraft contamination, test GPS equipment, test amateur radio equipment, and analyze solar radiation effects on laser-fired ordnance devices.
Jan. 14, 1996 Koreasat-2 3A Delta II*	South Korean commercial communications satellite.	Geosynchronous	
Jan. 31, 1996 Palapa C-1 6A Atlas IIAS*	Indonesian commercial communications satellite.	Geosynchronous	
Feb. 17, 1996 NEAR 8A Delta II	Near Earth Asteroid Rendezvous spacecraft.	Not Earth-orbiting	Will orbit a major asteroid, Eros, and pass by another asteroid, 253-Mathilde. First spacecraft in NASA's Discovery program.
Feb. 22, 1996 Space Shuttle *Columbia* (STS-75) 12A Space Shuttle	Tethered Satellite System reflight; perform microgravity experiments using the U.S. Microgravity Payload (USMP-3).	294 km 294 km 1 hour 31 minutes 28.5°	
Feb. 24, 1996 Polar 13A Delta II	Polar-orbiting space physics satellite.	50,551 km 5,100 km 15 hours 38 minutes 85.9°	
Feb. 25, 1996 TSS-1R 12B Space Shuttle	Deployed and retrieve Tethered Satellite System.	Orbital parameters similar to STS-75	American/Italian satellite. Tether separated, resulting in early termination of experiments.

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(Continued)

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1995–September 30, 1996

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Mar. 8, 1996 REX-II 14A Pegasus XL	Radiation Experiment 2.	832 km 801 km 1 hour 41 minutes 89.9°	Small military spacecraft.
Mar. 22, 1996 Space Shuttle *Atlantis* (STS-76) 18A Space Shuttle	Dock with *Mir* space station; transfer astronaut Shannon Lucid to *Mir*.	411 km 389 km 1 hour 33 minutes 51.6°	Third of 9 planned flights to *Mir*. Carried SPACEHAB with experiments and logistic support for *Mir*.
Mar. 28, 1996 GPS IIA (25) (USA 117) 19A Delta II	Global Positioning System navigation satellite.	20,282 km 20,078 km 11 hours 58 minutes 54.7°	
Apr. 3, 1996 INMARSAT 3-FL 20A Atlas IIA*	Communications satellite of international consortium.	Geosynchronous	
Apr. 24, 1996 MSX 24A Delta II*	Midcourse Space Experiment.	905 km 897 km 1 hour 44 minutes 99.3°	Military spacecraft designed to detect missile launches during "midcourse" phase.
Apr. 24, 1996 USA 118 26A Titan IV	Classified military payload.	Orbital parameters unavailable	
Apr. 30, 1996 SAX 27A Atlas I*	Satellite per Astronomia a raggi X.	603 km 583 km 1 hour 37 minutes 96.5°	Italian/Dutch celestial x-ray monitoring telescope.
May 12, 1996 USA 119 29A Titan IV	Classified military payload.	Orbital parameters unavailable	
May 12, 1996 USA 120 29B Titan IV	Classified military payload.	Orbital parameters unavailable	
May 12, 1996 USA 121 29C Titan IV	Classified military payload.	Orbital parameters unavailable	

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Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1995–September 30, 1996

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
May 12, 1996 USA 122 29D Titan IV	Classified military payload.	Orbital parameters unavailable	
May 12, 1996 USA 123 29E Titan IV	Classified military payload.	Orbital parameters unavailable	
May 12, 1996 USA 124 29F Titan IV	Classified military payload.	Orbital parameters unavailable	
May 17, 1996 MSTI III 31A Pegasus*	Miniature Sensor Technology Integration spacecraft.	384 km 297 km 1 hour 31 minutes 97.0°	Military spacecraft to monitor baseline data on Earth's atmosphere and environment.
May 19, 1996 Space Shuttle *Endeavour* (STS-77) 32A Space Shuttle	Deploy SPARTAN/IAE and PAMS-STU; conduct microgravity experiments in the SPACEHAB.	287 km 278 km 1 hour 31 minutes 39.0°	See below for information on SPARTAN/IAE.
May 20, 1996 SPARTAN 207 32B Space Shuttle	Deploy IAE.	Orbital parameters similar to STS-77	Shuttle Pointed Autonomous Research Tool for Astronomy.
May 20, 1996 IAE 32C Space Shuttle/SPARTAN 207	Inflatable Antenna Experiment.	Orbital parameters similar to STS-77	
May 22, 1996 PAMS-STU 32D Space Shuttle	Passive Aerodynamically Stabilized Magnetically Damped Satellite–Shuttle Test Unit.	Orbital parameters similar to STS-77	Small experimental spacecraft.
May 24, 1996 Galaxy IX 33A Delta II*	Commercial communcitions satellite.	Geosynchronous	
Jun. 20, 1996 Space Shuttle *Columbia* (STS-78) 36A Space Shuttle	Perform life and microgravity experiments in the Spacelab module (LMS-1).	267 km 267 km 1 hour 30 minutes 39°	

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(Continued)

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1995–September 30, 1996

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Jul. 2, 1996 TOMS 37A Pegasus XL	Total Ozone Mapping Spectrometer.	Sun-synchronous orbit 500 km 500 km 1 hour 38 minutes 97.4°	
Jul. 3, 1996 USA 125 38A Titan IV	Classified military surveillance spacecraft.	Orbital parameters unavailable	
Jul. 16, 1996 GPS IIA (26) (USA 126) 41A Delta II	Global Positioning System satellite.	20,365 km 20,272 km 12 hours 4 minutes 55.0°	
Jul. 25, 1996 EHF-F7 (UFO-7) 42A Atlas II*	Military communications satellite.	Geosynchronous	
Aug. 21, 1996 FAST 49A Pegasus XL	Fast Auroral Snapshot Explorer, an astrophysics spacecraft.	4,159 km 348 km 2 hours 13 minutes 83°	
Sep. 8, 1996 GE-1 54A Atlas IIA*	Commercial communications satellite	Geosynchronous	
Sep. 12, 1996 GPS IIA (27) (USA 128) 56A Delta II	Global Positioning System satellite.	33,649 km 17,055 km 15 hours 38 minutes 61.5°	
Sep. 16, 1996 Space Shuttle *Atlantis* (STS-79) 57A Space Shuttle	Dock with *Mir*, retrieve Shannon Lucid, and transfer John Blaha, experiments, and logistic support to *Mir*.	385 km 375 km 1 hour 32 minutes 51.6°	Fourth of 9 planned flights to *Mir*. Used SPACEHAB module.

* Commercial launch licensed as such by the Federal Aviation Administration.