APPENDIX B

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1999–September 30, 2000

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Oct. 7, 1999 Navstar 46 (USA 145) 55A Delta II	Global Positioning System (GPS) navigation satellite	21,164 km 20,097 km 736.2 min 53.1°	
Nov. 23, 1999 UFO 10 63A Atlas IIA	UHF Follow on 10 is a military communications satellite	Geosynchronous	
Dec. 4, 1999 Orbcomm A-G 65A-G *Pegasus XL	Communications satellite	834 km 830 km 101.5 min 45°	
Dec. 12, 1999 DMSP F15 (USA 147) 67A Titan	Quasi-military satellite	851 km 837 km 101.8 min 98.9°	Uses visible, infrared, and microwave imagers to monitor weather.
Dec. 18, 1999 Terra 68A Atlas IIAS	Weather Satellite	685 km 654 km 98.1 min 98.2°	Joint spacecraft with Japan and Canada.
Dec. 20, 1999 STS-103 69A Space Shuttle	Hubble Space Telescope servicing mission	609 km 563 km 96.4 min 28.5°	
Dec. 21, 1999 Kompsat 70A *Taurus	Experimental remote sensing satellite	710 km 688 km 98.8 min 98.3°	South Korean spacecraft.
Dec. 21, 1999 ACRIMSAT 70B Taurus	Solar science satellite	727 km 683 km 99 min 98.3°	Carries active cavity radiometer irradiance monitor instrument.
Jan. 21, 2000 DSCS 3 (USA 148) 1A Atlas II	Military communications satellite	Geosynchronous	Defense Satellite Communications System 3.
Jan. 27, 2000 JAWSAT 4A Minuteman	Military minisatellite	773 km 773 km 100.4 min 100.2°	Joint air force Academy-Weber state university SATellite launched OCS, OPAL FALCONSAT, and ASUSAT microsatellite.

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October 1, 1999–September 30, 2000

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Jan. 27, 2000 OCS 4B Minuteman	Military microsatellite	773 km 773 km 100.4 min 100.2°	Optical Calibration Sphere
Jan. 27, 2000 OPAL 4C Minuteman	Military microsatellite	773 km 773 km 100.4 min 100.2°	Orbiting Picosatellite Automated Launcher
Jan. 27, 2000 FALCONSAT 4D Minuteman	Military microsatellite	773 km 773 km 100.4 min 100.2°	
Jan. 27, 2000 ASUSAT 4E Minuteman	Military microsatellite	773 km 773 km 100.4 min 100.2°	Arizona State University SATellite
Jan. 27, 2000 Picosats 4-8 4H-M Minuteman	Engineering student experimental satellites	805 km 750 km 100.4 min 100.2°	Tethered picosatellites were launched by OPAL.
Feb. 3, 2000 Hispasat 7A *Atlas IIAS	Communications satellite	Geosynchronous	Spanish spacecraft.
Feb. 8, 2000 Globalstar A-D 8A-D *Delta II	Communications satellites	930 km 914 km 103.5 min 52° min	Final members of Globalstar fleet, now totaling 52 members including 4 reserves.
Feb. 11, 2000 STS-99 10A Space Shuttle	Earth mapping mission	242 km 224 km 89.2 min 57°	Joint NASA-NIMA (National Imagery and Mapping Agency) mission to produce a 3-D map of 70% of global terrain.
Mar. 12, 2000 MTI 14A Taurus	Quasi-military reconnaissance satellite	614 km 577 km 96.6 min 97.4°	Multi-spectral Thermal Imager

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Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1999–September 30, 2000

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Mar. 25, 2000 IMAGE 17A Delta II	Magnetospheric science satellite	45,995 km 993 km 856 min 89.9°	Imager for Magnetopause-to-Aurora Global Exploration
May 3, 2000 GOES 11 22A Atlas IIA/Centaur	Weather satellite	Geosynchronous	
May 8, 2000 DSP 20 (USA 149) 24A Titan IVB	Military reconnaissance satellite	Geosynchronous	
May 11, 2000 Navstar 51 (USA 150) 25A Delta II	GPS navigation satellite	20,200 km 20,200 km 712 min 55°	
May 19, 2000 STS-101 27A Space Shuttle	Repair and upgrade International Space Station (ISS)	320 km 320 km 91 min 51.6°	
May 25, 2000 Eutelsat W4 28A *Atlas IIIA	Communications satellite	Geosynchronous	European spacecraft.
June 7, 2000 TSX 5 30A *Pegasus XL	Military satellite	1,704 km 404 km 106 min 69°	Tri-service eXperiments 5 satellite is designed to monitor other spacecraft and aircraft.
June 30, 2000 TDRS 8 34A Atlas IIA	Tracking and Data Relay Satellite	Geosynchronous	
July 14, 2000 Echostar 6 38A *Atlas IIAS	Communications satellite	Geosynchronous	
July 16, 2000 Navstar 48 (USA 151) 40A Delta II	Navigational satellite	20,456 km 167 km 358 min 39°	

APPENDIX B

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Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 1998–September 30, 1999

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
July 19, 2000 Mightysat 2.1 42A Minotaur	Experimental technology military satellite	Orbital parameters unknown	
Aug. 17, 2000 USA 152 47A Titan IVB	Military-intelligence satellite	Orbital parameters unknown	Joint military-National Reconnaissance Office radar imaging mission.
Aug. 23, 2000 DM-F3 48A *Delta III	Dummy satellite to test launch capability of new Delta III vehicle	20,634 km 192 km 361 min 27.6°	
Sept. 8, 2000 STS-106 53A Space Shuttle	Resupply and repair mission to the ISS	386 km 375 km 92.2 min 51.6°	
Sept. 21, 2000 NOAA 16 55A Titan II	Weather satellite	850 km 843 km 102.1 min 98.8°	

* Commercial launch licensed as such by the Federal Aviation Administration. More launch data are available at *http://ast.faa.gov/launch/history.cfm*.