APPENDIX B

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 2000–September 30, 2001

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Oct. 9, 2000 HETE 2* 2000-61A Pegasus	Science	637 km 594 km 97 min 2°	
Oct. 11, 2000 STS-92/*Discovery* 2000-62A Space Shuttle	ISS Assembly	381 km 380 km 92 min 51.6°	
Oct. 20, 2000 USA 153 2000-65A Atlas 2A	Military Communications	Orbital Parameters unknown	
Oct. 21, 2000 Thuraya 1* 2000-66A Zenit 3SL/Sea Launch	Communications	Geosynchronous	United Arab Emirates satellite
Nov. 10, 2000 Navstar 49 (USA 154) 2000-71A Delta 2	GPS navigation	20,498 km 20,177 km 724.3 min 55.1°	
Nov. 21, 2000 EO-1 2000-75A Delta 2	Earth Science	700 km 690 km 98.7 min 98.2°	
Nov. 21, 2000 SAC-C 2000-75B Delta 2	Earth Science	701 km 682 km 98.7 min 98.2°	International mission
Nov. 21, 2000 Munin 2000-75C Delta 2	Earth Science	1,794 km 693 km 110 min 95.4°	Swedish auroral research nanosatellite
Nov. 30, 2000 STS-97/*Endeavour* 2000-78A Space Shuttle	ISS Assembly	365 km 352 km 91.7 min 51.6°	
Dec. 6, 2000 USA 155 2000-80A Atlas 2AS	Military reconnaissance	Orbital parameters unknown	

APPENDIX B

(Continued)

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 2000–September 30, 2001

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Jan. 30, 2001 Navstar 50 (USA 156) 2001-4A Delta 2	GPS navigation	20,390 km 158 km 357 min 39.1°	
Feb. 7, 2001 STS-98/*Atlantis* 2001-6A Space Shuttle	ISS assembly	378 km 365 km 92 min 51.5°	
Feb. 7, 2001 Destiny module 2001-6B Space Shuttle	ISS module	ISS orbital parameters	
Feb. 27, 2001 USA 157 2001-9A Titan 4/Centaur	Military communications	Geosynchronous	
March 8, 2001 STS-102/*Discovery* 2001-10A Space Shuttle	ISS crew and supplies	ISS orbital parameters	
March 18, 2001 XM 2* 2001-12A Zenit 3SL/Sea Launch	Radio broadcast satellite	Geosynchronous	Also known as XM Rock
April 7, 2001 Mars Odyssey 2001-14A Delta 2	Space Science	Interplanetary mission	
April 19, 2001 STS-100/*Endeavour* 2001-16A Space Shuttle	ISS crew and assembly	394 km 377 km 92.3 min 51.6°	
May 8, 2001 XM 1* 2001-18A Zenit/Sea Launch	Radio broadcast satellite	Geosynchronous	Also known as XM Roll
May 18, 2001 USA 158 2001-20A Delta 2	Military communications	Geosynchronous	Reportedly a laser communications technology demonstrator

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(Continued)

Successful Launches to Orbit on U.S. Launch Vehicles

October 1, 2000–September 30, 2001

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
June 19, 2001 ICO-F2* 2001-26A Atlas 2AS	Communications	10,216 km 10,104 km 351 min 45°	British relay satellite
June 30, 2001 MAP 2001-27A Delta 2	Space Science	Initial "parking" at second Lagrangian point	Microwave Anisotropy Probe astrophysics spacecraft
July 12, 2001 STS-104/*Atlantis* 2001-28A Space Shuttle	ISS assembly	390 km 372 km 92.2 min 51.6°	
July 23, 2001 GOES 12 2001-31A Atlas 2A	Weather	Geosynchronous	
Aug. 6, 2001 USA 159 2001-33A Titan 4B	Military reconnaissance	Geosynchronous	Defense Support Program (DSP)-21 satellite
Aug. 8, 2001 Genesis 2001-34A Delta 2	Space Science	Varying parameters	
Aug. 10, 2001 STS-105/*Discovery* 2001-35A Space Shuttle	ISS crew and assembly	402 km 373 km 92.3 min 51.6°	
Sept. 8, 2001 USA 160 2001-40A Atlas 2AS/Centaur	Military reconnaissance	Orbital parameters unknown	
Sept. 30, 2001 Starshine 3 2001-43A Athena-1	Science	472 km 472 km 94 min 67°	First launch from the Kodiak Launch Complex in Alaska
Sept. 30, 2001 Picosat 9 2001-43B Athena-1	Science	794 km 794 km 101 min 67°	British-built, U.S. DoD-funded satellite to test electronic components

APPENDIX B
(Continued)

Successful Launches to Orbit on U.S. Launch Vehicles
October 1, 1998–September 30, 2001

Launch Date Spacecraft Name COSPAR Designation Launch Vehicle	Mission Objectives	Apogee and Perigee (km), Period (min), Inclination to Equator (°)	Remarks
Sept. 30, 2001 PCSat 2001-43C Athena-1	Science	794 km 794 km 101 min 67°	Prototype communications satellite built by midshipmen at U.S. Naval Academy as relay for amateur radio transmissions
Sept. 30, 2001 Sapphire 2001-43D Athena-1	Science	794 km 794 km 101 min 67°	DoD-funded microsatellite built by Stanford University students and faculty, with voice synthesizer

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