



Atlas V Launches STP-1

United Launch Alliance is proud to be a part of the STP-1 mission with the Department of Defense Space Test Program. The STP-1 mission marks the ninth Atlas V launch and the fourth launch of an Atlas V 401 configuration. The STP-1 mission will include several notable first-time events:

- 1) The first Space Test Program mission with multiple satellites dedicated to an intermediate-class launch vehicle,
- 2) The first Atlas V mission under the Evolved Expendable Launch Vehicle (EELV) Program,
- 3) The first Atlas V mission to carry multiple satellites to two distinctly different low-Earth orbits,
- 4) The first Atlas V mission with three Centaur burns.

The STP-1 mission continues the long Atlas heritage that began with nuclear deterrence, continued with manned space flight during the Mercury program, and includes numerous national security missions, commercial missions and scientific exploration of the planets and beyond.

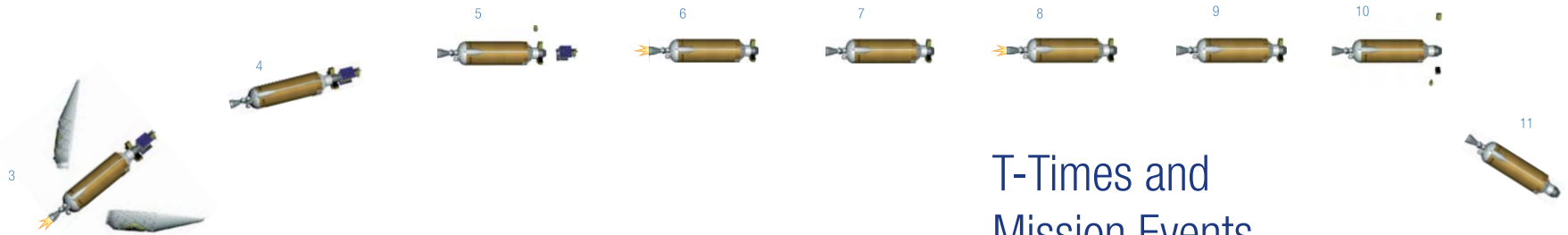
Go Atlas! Go Centaur!

James V. Spornick
Vice President, Atlas Programs



AV-013





Mission Overview

The STP-1 Integrated Payload Stack (IPS) consists of six satellites for the Department of Defense Space Test Program to be deployed into two different low-Earth orbits. The Defense Advanced Research Projects Agency (DARPA) provided the Orbital Express Advanced Technology Demonstration (OEDS), consisting of the ASTRO Servicing Vehicle and the NEXTSat/Commodity Spacecraft (CSC). The goal of the Orbital Express Space Operations Architecture program is to validate the technical feasibility of robotic, autonomous onorbit refueling and reconfiguration of satellites to support a broad range of future U.S. national security and commercial space programs.

Mounted below Orbital Express on the Evolved Expendable Launch Vehicle Secondary Payload Adapter (ESPA) are four ESPA class payloads:

- 1) MidSTAR-1, built and provided by the United States Naval Academy, consists of five experiment payloads: the Configurable Fault Tolerant Processor (CFTP) experiment, the Internet Communications Satellite (ICSat) experiment, the MicroDosimeter NanoSensor (MiDN), the MicroElectroMechanical Sensor (MEMS), the Nano ChemSensor Unit (NCSU), and Eclipse.
- 2) STPSat-1, provided by the Space Test Program, consists of two experiments: the Spatial Heterodyne Imager for Mesospheric Radicals (SHIMMER) and the Computerized Ionospheric Tomography Receiver in Space (CITRIS).
- 3) Cibola Flight Experiment (CFE), provided by Los Alamos National Laboratory, is a reconfigurable space borne processor payload intended for a low-Earth orbit system.
- 4) FalconSat-3, built and provided by the United States Air Force Academy, consists of three experiments: the Flat Plasma Spectrometer, Plasma Anomalous Noise Environment, and a Micro Propulsion Attitude Control System.

T-Times and Mission Events

Event	HR:MIN:SEC
RD-180 Ignition	-0:00:02.7
1 Liftoff	0:00:01.1
2 Booster Engine Cutoff	0:04:04.4
2 (Booster) Atlas/Centaur Separation	0:04:10.4
2 Centaur 1st Main Engine Start (MES1)	0:04:20.4
3 Payload Fairing Jettison	0:04:28.4
4 Centaur 1st Main Engine Cutoff (MEC01)	0:14:23.2
5 Command/Separate Orbital Express Spacecraft	0:18:02.2
5 Command Separation of MidSTAR-1 Spacecraft	0:22:17.2
5 Latest separation of MidSTAR-1 Spacecraft	0:22:22.2
6 Centaur 2nd Main Engine Start (MES2)	0:33:07.0
7 Centaur 2nd Main Engine Cutoff (MEC02)	0:34:29.2
8 Centaur 3rd Main Engine Start (MES3)	0:46:27.1
9 Centaur 3rd Main Engine Cutoff (MEC03)	0:48:19.1
10 Command Separation of STPSat-1 Spacecraft	0:56:07.1
10 Latest Separation of STPSat-1 Spacecraft	0:57:47.1
10 Command Separation of CFE Spacecraft	1:01:40.1
10 Latest Separation of CFE Spacecraft	1:01:45.1
10 Command Separation of FalconSat-3 Spacecraft	1:05:38.1
10 Latest Separation of FalconSat-3 Spacecraft	1:07:18.1
11 Begin CCAM Attitude Turn	1:07:22.1