

Angelfire Flight Data

Event: LDRS 26
 Date: July 13, 2007
 Location: Jean Dry Lake, Nevada
 Elevation: 2776 feet MSL
 Temp: Approx 90F
 %RH: Low
 Wind: Very low

Motor: Aerotech M1419W Missile Works Mach delay set to 12 sec
 LO weight: 51.9 lbs Main chute set to deploy at 1500 ft
 Backup charge for main set at 1000 ft
 Liftoff: 15:56:19.8 UTC

Comments: Looked to be a pretty good and mostly vertical boost.
 Main chute deployment looked clean and was quick to inflate.
 Ejection charges were wired to both Missile Works altimeters & ARTS altimeter.

Flight Event Timeline

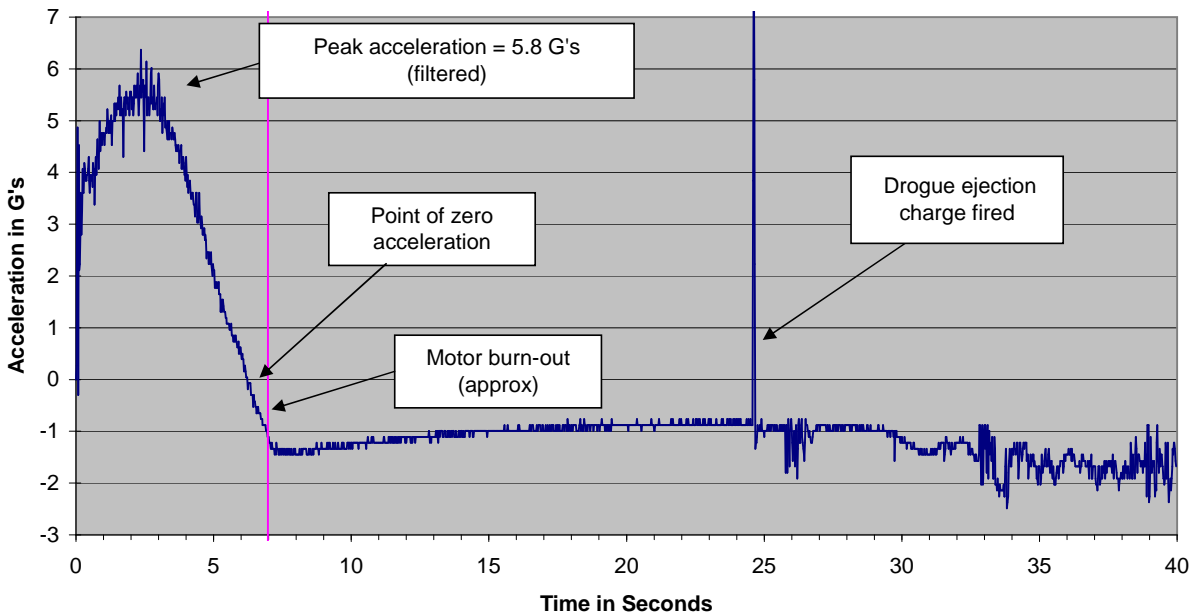
Time (Sec)	Event	Altitude	Speed
0.0	Motor Ignition	0 ft	0 ft/sec
2.4	Peak Acceleration = 5.8 G's	265 ft	367 ft/sec
4.2	Altitude = 1,000 feet	1,000 ft	638 ft/sec
6.2	Peak Velocity = 511 mph	2,287 ft	750 ft/sec
6.2	Acceleration drops to zero.	2,287 ft	749 ft/sec
7.0	Motor burnout	2,869 ft	734 ft/sec
21.5	Altitude = 10,000 feet	10,000 ft	233 ft/sec
24.6	Drogue chute ejection charge fires	9,423 ft	158 ft/sec
27.1	Barometric apogee detection	9,574 ft	80 ft/sec
29.7	Accelerometer apogee detection	11,002 ft	1 ft/sec
118.0	Main chute ejection charge fires	1,605 ft	
187.8	Booster section touch down	0 ft	
190.0	Body tube section touch down	0 ft	
190.7	All parts at rest on ground	0 ft	

Drogue chute sink rate 91.0 ft/sec
 Main chute sink rate 21.2 ft/sec

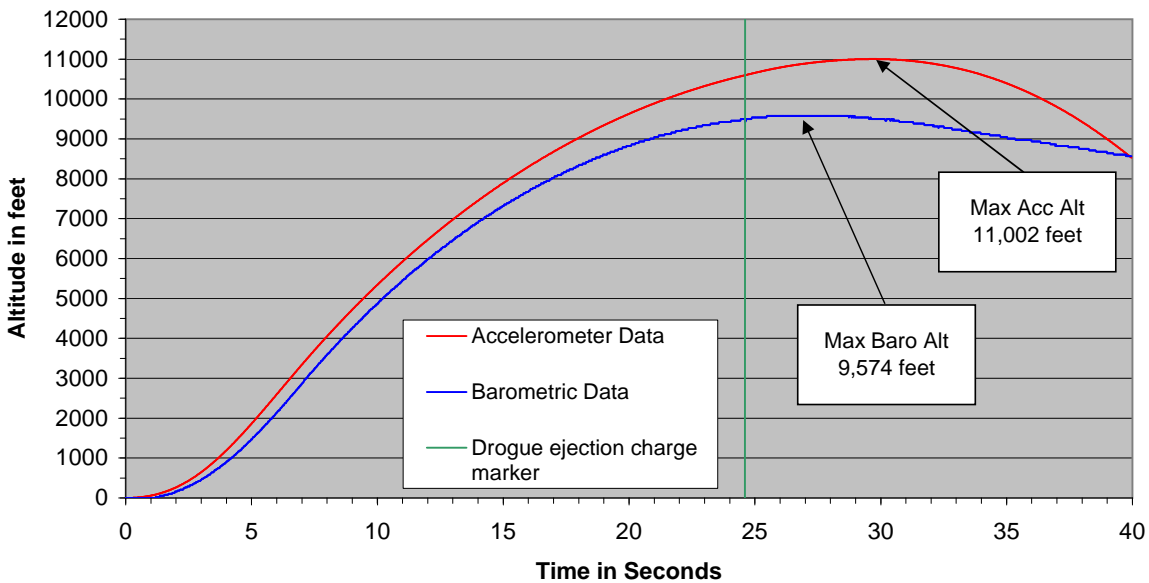
Time to apogee 27.1 sec 0.45 minutes
 Time on drogue 93.4 sec 1.56 minutes
 Time on main 72.7 sec 1.21 minutes
 Total flight time 190.7 sec 3.18 minutes

MissileWorks Altimeter #1: 10,172 feet
 MissileWorks Altimeter #2: 10,404 feet
 Avg: 10,288 feet

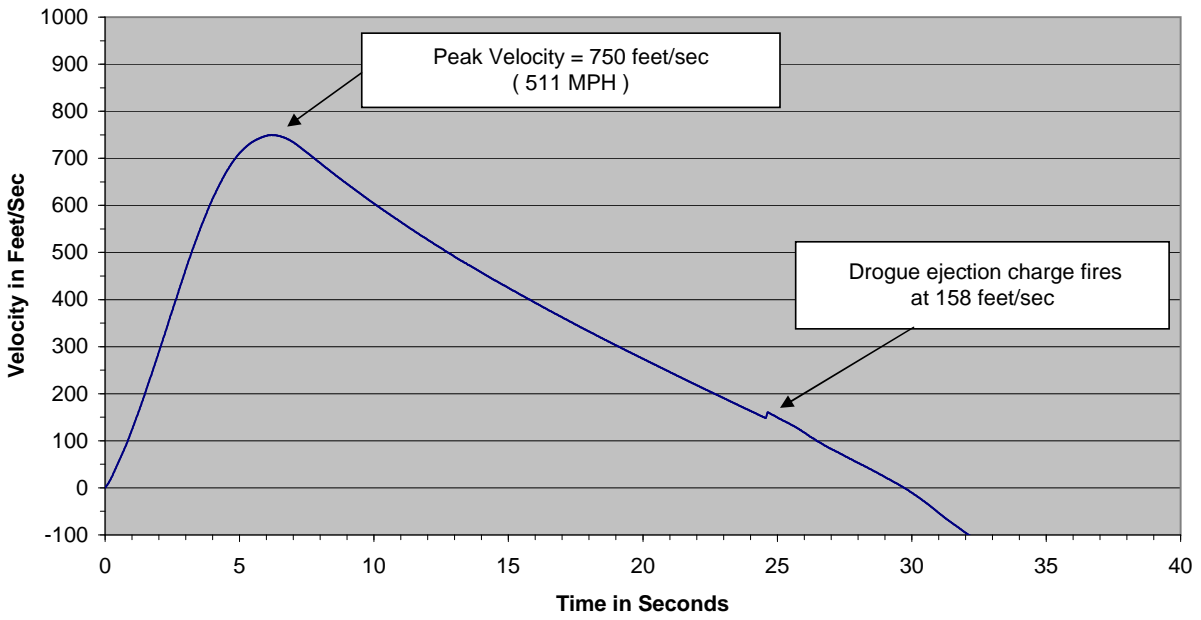
Angelfire Acceleration July 13, 2007 M1419 motor



Angelfire Altitude July 13, 2007 M1419 motor



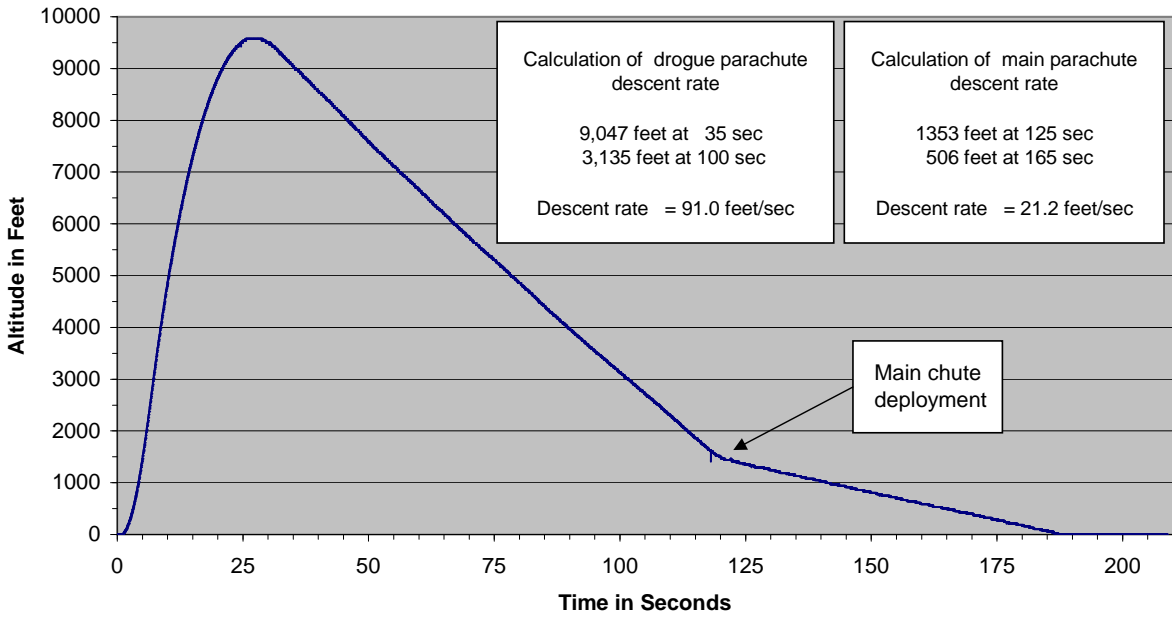
Angelfire Velocity July 13, 2007 M1419 motor



Angelfire Altitude

July 13, 2007

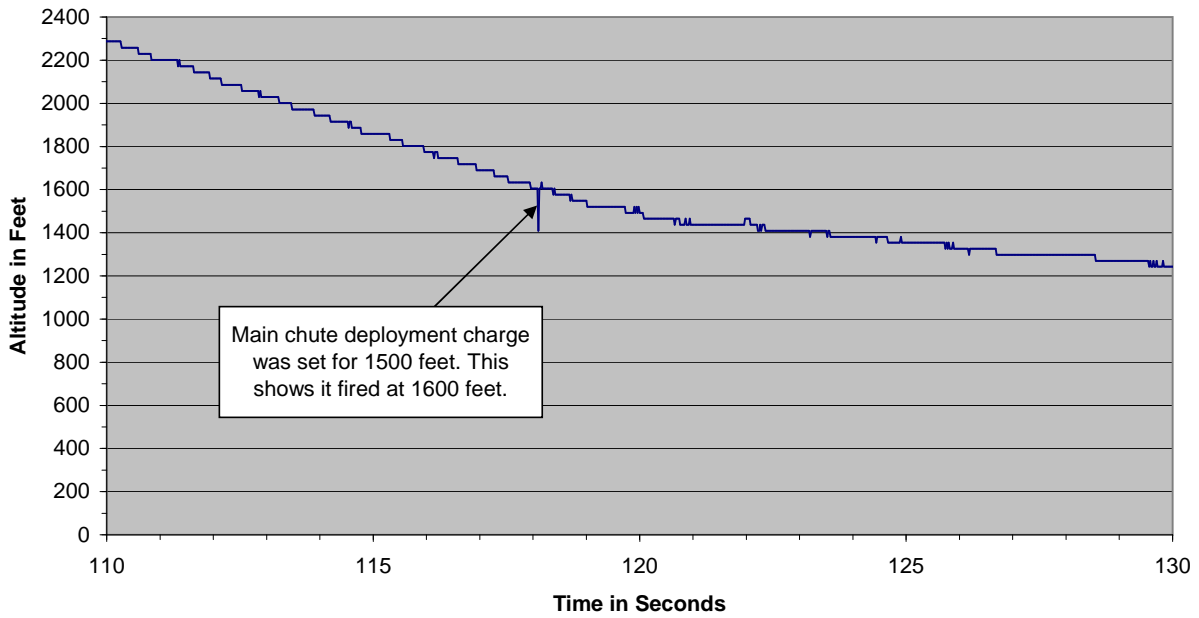
M1419 motor



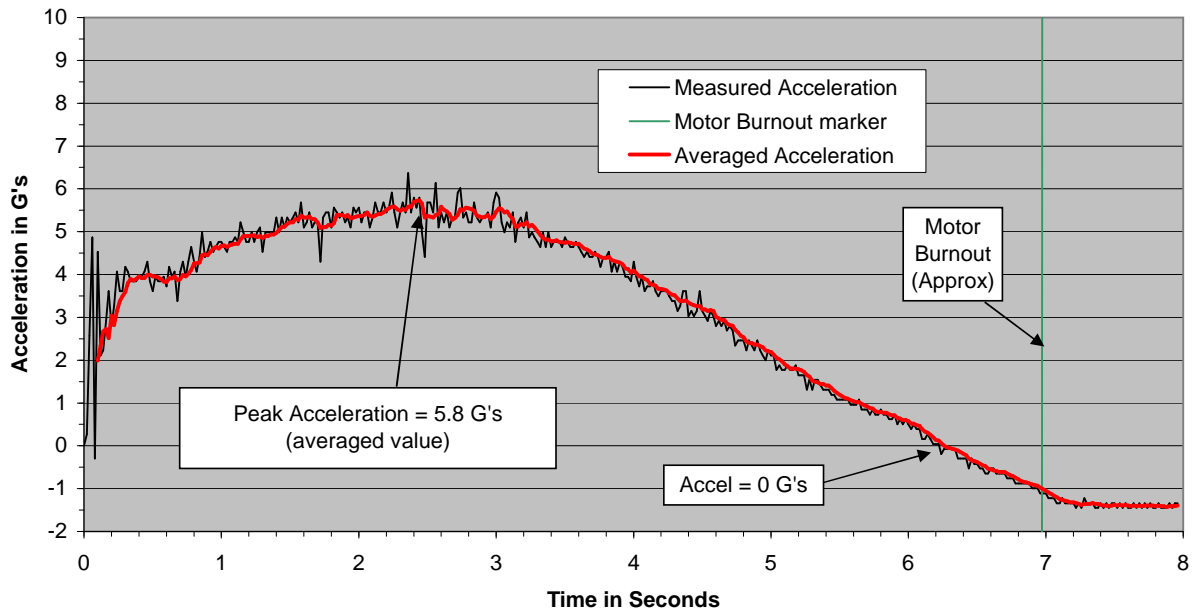
Angelfire Main Chute Deployment

July 13, 2007

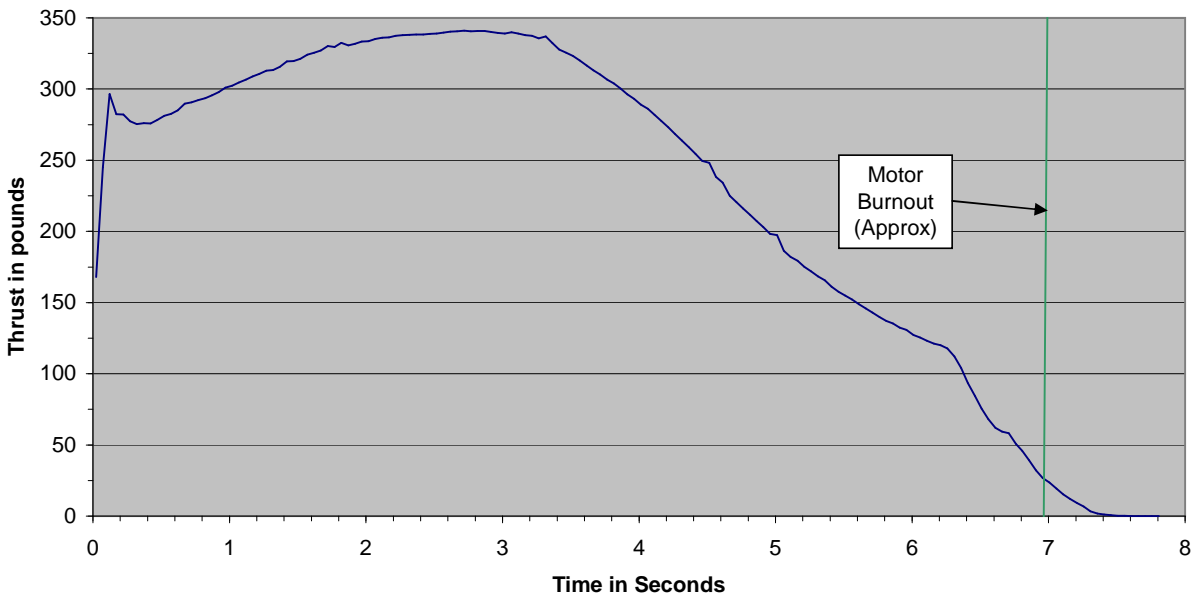
M1419 motor



Angelfire Acceleration July 13, 2007 M1419 motor



AeroTech M1419 Nominal Thrust Curve



Angelfire Acceleration July 13, 2007 M1419 motor

