

Angelfire Flight Data

Date: Sept 23, 2006
 Location: Black Rock Desert, Nevada
 Elevation: 3897 feet MSL
 Temp:
 %RH:
 Wind: Approx 5 mph at ground level

 Motor: Aerotech M1939W
 LO weight: Approx 52 lbs

 Liftoff: 20:43:47.0 UTC

 Comments: Angled slightly to the southwest.
 Good boost.
 Main chute deployment was very late. (Just in time.)

Flight Event Timeline

| Time (Sec) | Event | Altitude | Speed |
|------------|------------------------------------|-----------|-------------|
| 0.0 | Motor Ignition | 0 ft | 0 ft/sec |
| 1.4 | Peak Acceleration = 8.6 G's | 137 ft | 296 ft/sec |
| 3.3 | Altitude = 1,000 feet | 1,000 ft | 734 ft/sec |
| 5.9 | Peak Velocity = 682 mph | 3,257 ft | 1000 ft/sec |
| 5.9 | Motor burnout (Accel = 0) | 3,257 ft | 1000 ft/sec |
| 13.9 | Altitude = 10,000 feet | 10,000 ft | 637 ft/sec |
| 25.8 | Drogue chute ejection charge fires | 14,678 ft | 277 ft/sec |
| 29.3 | Barometric apogee detection | 15,015 ft | 112 ft/sec |
| 32.3 | Accelerometer apogee detection | 16,192 ft | 1 ft/sec |
| 186.2 | Main chute ejection charge fires | 1,089 ft | |
| 190.9 | Back up ejection charge fires | 749 ft | |
| 201.0 | Main chute inflated | 110 ft | |
| 203.5 | Booster touch down | 27 ft | |
| 207.0 | All parts at rest on ground | 0 ft | |

Drogue chute sink rate 91.4 ft/sec
 Main chute sink rate NA

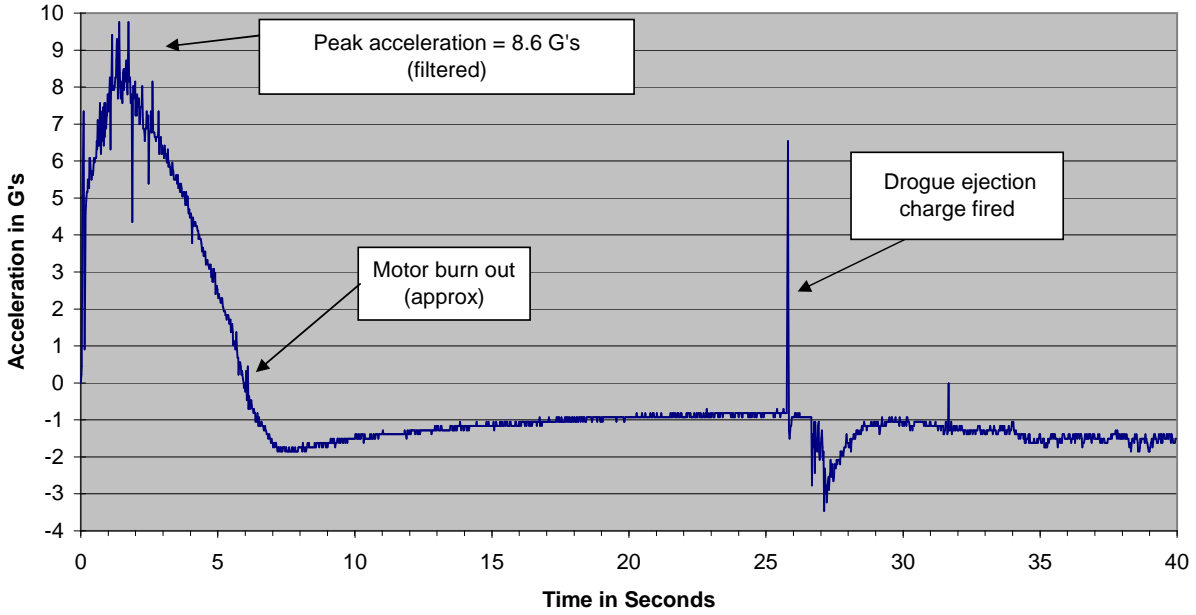
Time to apogee 29.3 sec 0.49 minutes
 Time on drogue 175.2 sec 2.92 minutes
 Time on main 2.5 sec 0.04 minutes
 Total flight time 207.0 sec 3.45 minutes

MissileWorks Altimeter #1: 15,133 feet
 MissileWorks Altimeter #2: 16,018 feet
 Avg: 15,576 feet

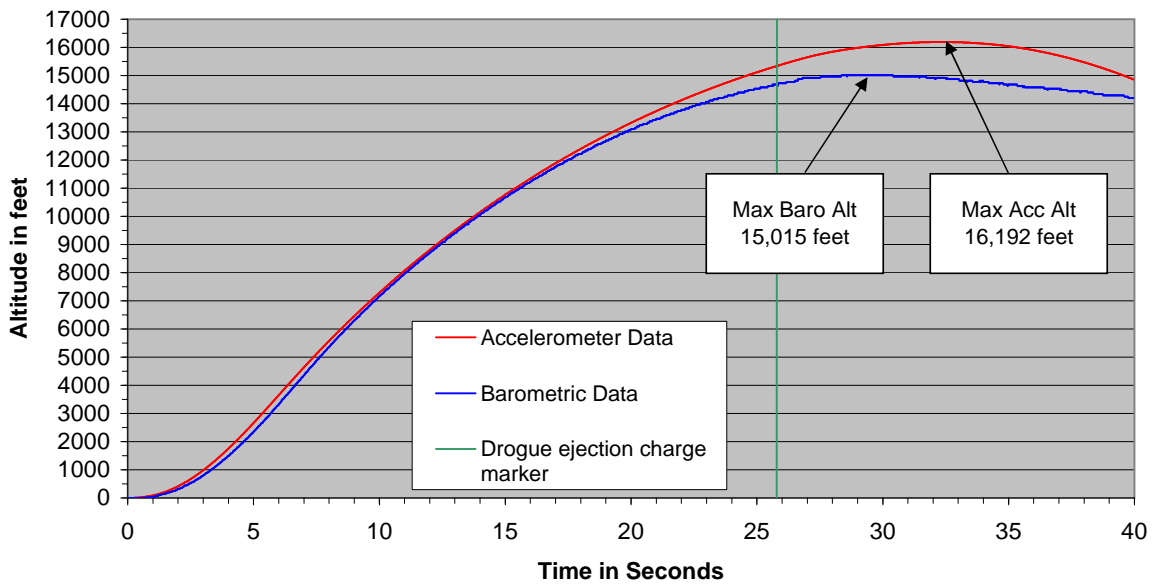
NOTE

The MissileWorks altimeters were responsible for drogue and main parachute ejection charge firings.

Angelfire Acceleration Sept. 23, 2006 M1939 motor



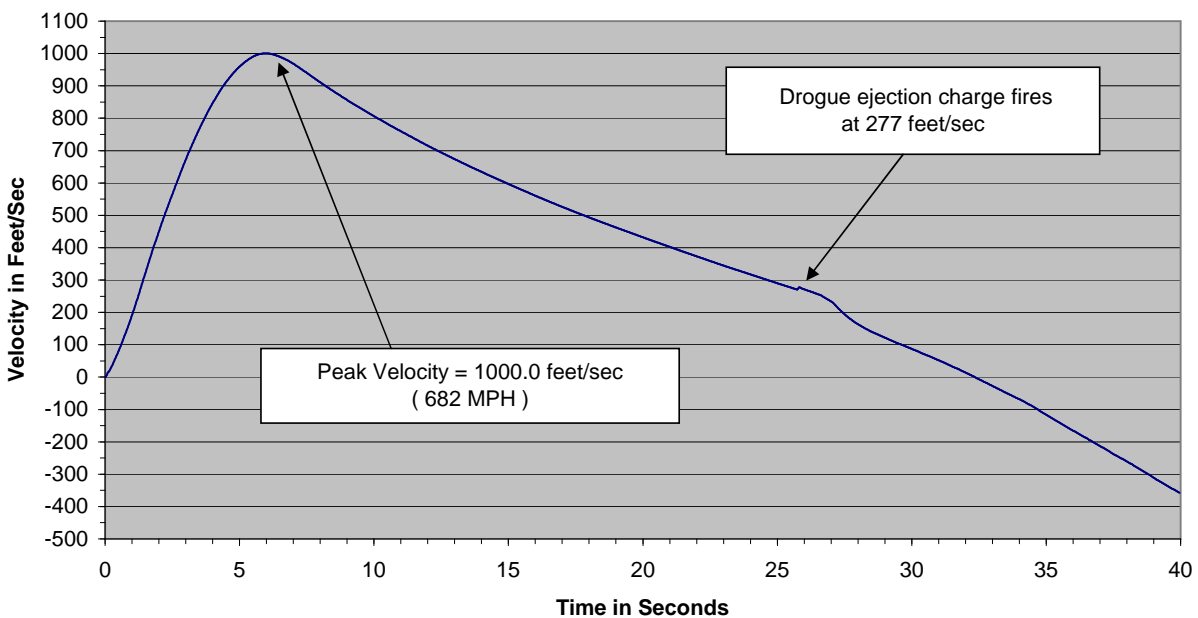
Angelfire Altitude Sept. 23, 2006 M1939 motor



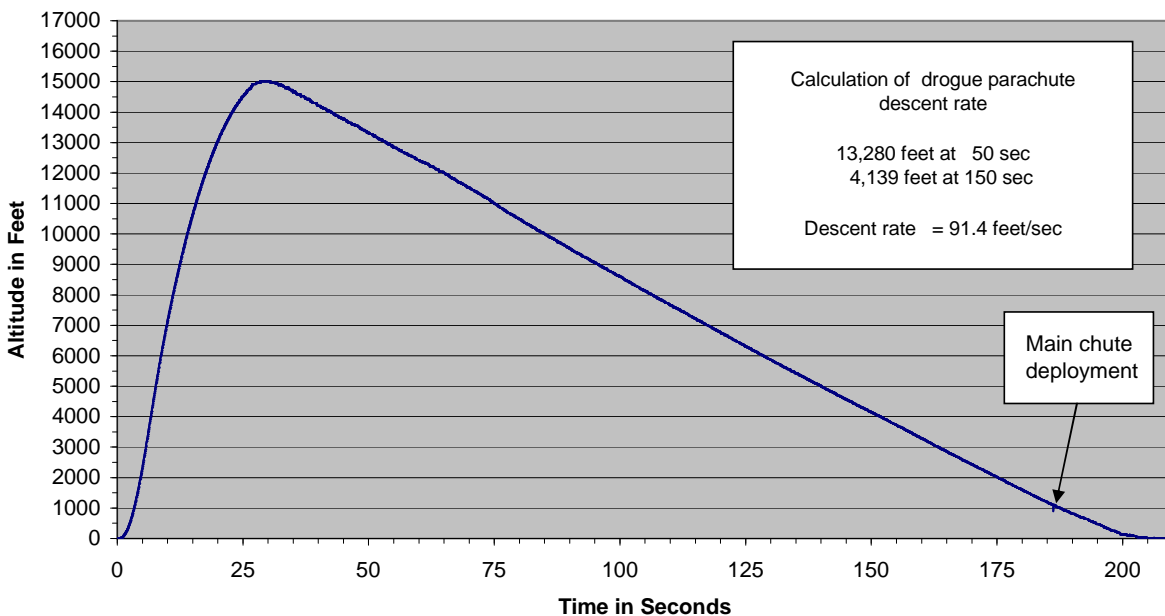
Angelfire Velocity

Sept. 23, 2006

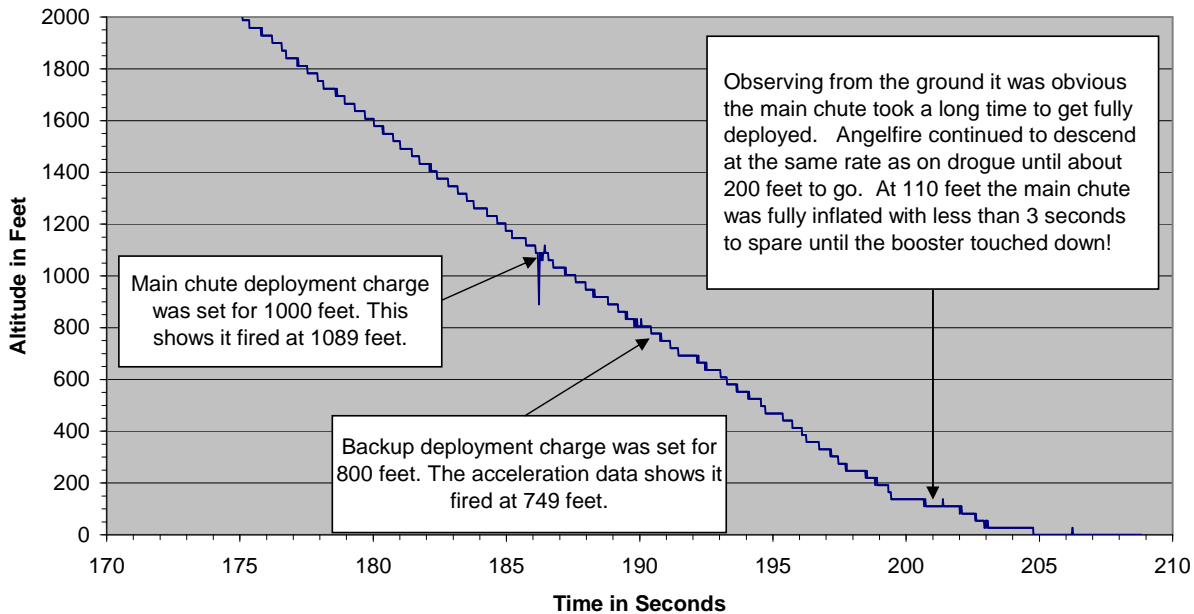
M1939 motor



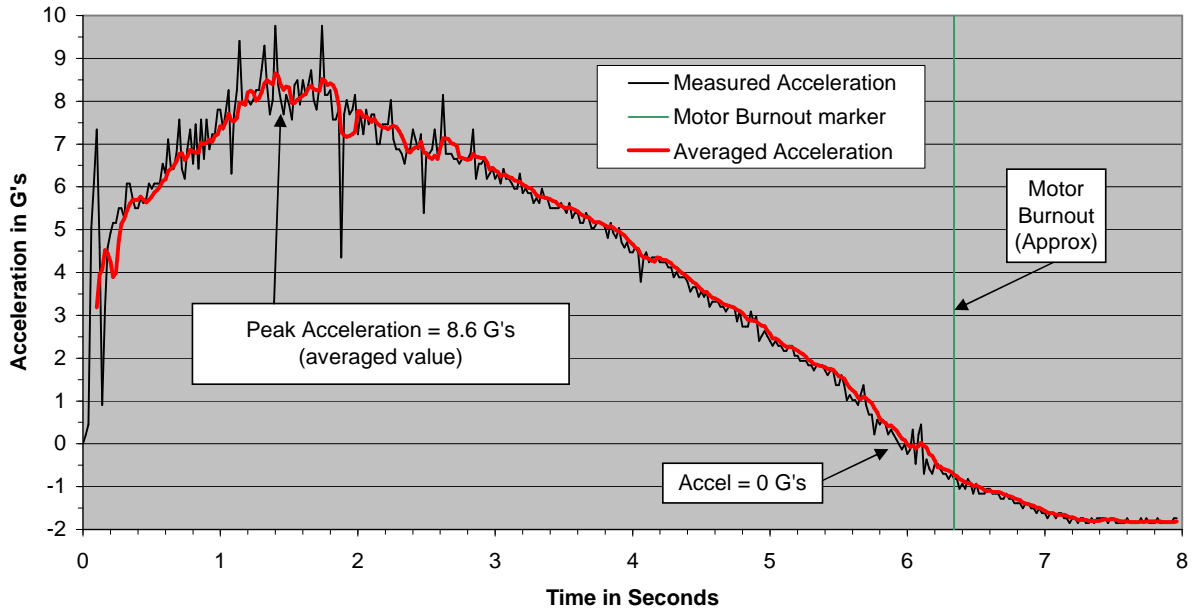
Angelfire Altitude Sept. 23, 2006 M1939 motor



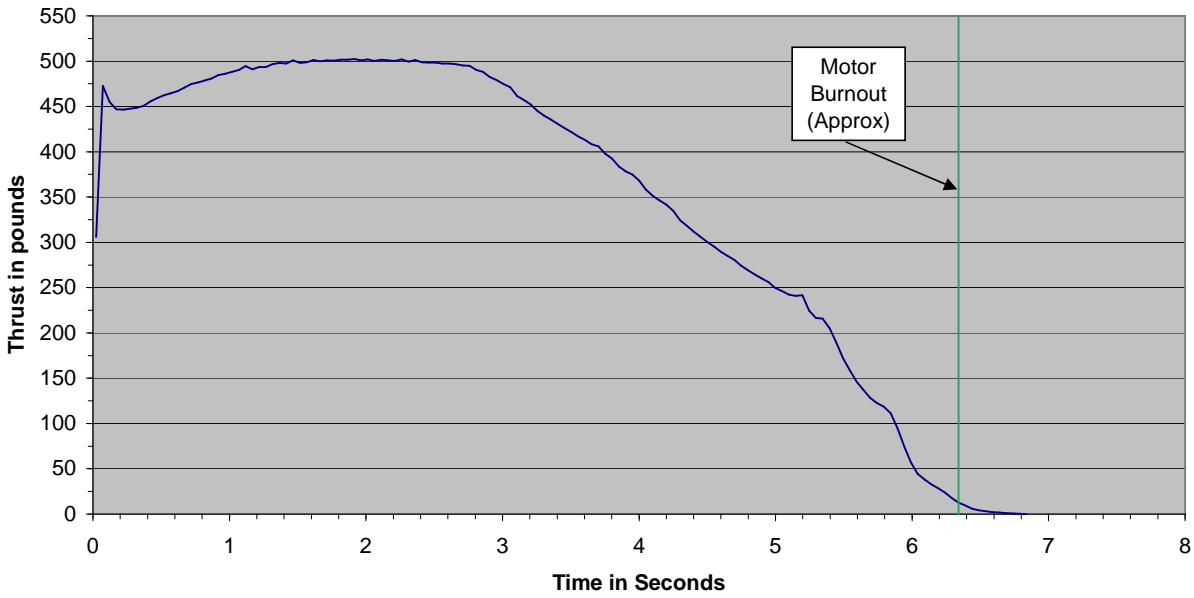
Angelfire Main Chute Deployment Sept. 23, 2006 M1939 motor



Angelfire Acceleration Sept. 23, 2006 M1939 motor



AeroTech M1939 Nominal Thrust Curve



Angelfire Acceleration Sept. 23, 2006 M1939 motor

