

APOGEE E6

CERTIFIED VALUES

Total Impulse: 37.80 newton-seconds
Delays: 4, 6 and 8 seconds

Propellant Type: Composite
Propellant Mass: 22.0 grams

Casing Dimensions: 24 mm × 77 mm

Certification Date: 06-July - 16
Contest Use Date:

Certification Type: Model Rocket

STATIC TEST DATA

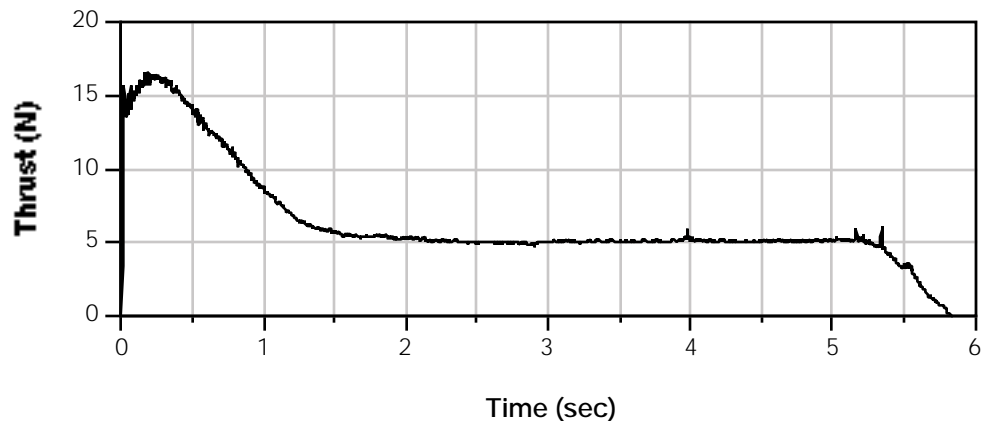
Date Tested: July 15, 2006

Total Impulse: 37.80 newton-seconds (0.92)
Peak Thrust: 16.56 newtons (1.35)
Burn Time: 5.84 seconds (0.39)
Average Thrust: 6.47 newtons

Mass After Firing: 20.7 grams

Delay Time	Average Measured Delay	Initial Mass
P	None	42.1 g
4	4.35	46.7 g
6	4.88	47.1 g
8	7.15	46.2 g

TYPICAL THRUST-TIME CURVE



REMARKS

			APOGEE			E6-P, 4, 6, 8				
			ENGINE	TOTAL	MAX	AVG	BURN	DELAY	INIT	BURNT
			TYPE	IMPULSE	THRUST	THRUST	TIME	TIME	WT	WT
7			E6-P	39.40	19.27	7.68	5.13	P	42.1	18.6
8			E6-4	37.13	15.14	6.10	6.09	3.63	47.0	21.2
9			E6-4	37.95	16.08	6.49	5.84	5.07	46.3	20.7
10			E6-6	36.26	14.94	5.81	6.24	5.21	47.8	21.9
11			E6-6	37.41	17.23	5.91	6.33	4.54	46.4	20.5
12			E6-8	38.18	16.45	6.81	5.60	7.40	47.1	21.3
13			E6-8	38.23	16.78	6.77	5.65	6.90	46.6	20.8
			AVG	37.80	16.56	6.51	5.84			
			STD	0.92	1.35	0.60	0.39			
			STD %	2.42	8.15	9.26	6.65			
						6.47				
			DELAYS							
ALLOWABLE										
RANGE			INDICATED	AVG	ACTUAL	ACTUAL				
2.5	TO	5.5	4	4.35	3.63	5.07				
4.5	TO	7.5	6	4.88	5.21	4.54				
6.4	TO	9.6	8	7.15	7.40	6.90				

```

; APOGEE E6 RASP.ENG FILE
; The total impulse, peak thrust, average thrust and burn time are
; the same as the averaged static test data on the NAR web site in
; the certification file. The curve drawn with these data points is as
; close to the certification curve as can be with such a limited
; number of points (32) allowed with wRASP up to v1.6.

```

```

E6 24 77 4-6-8-P 7.566 0.0462 AP
0.023 10.884
0.025 15.342
0.051 14.192
0.117 15.212
0.176 15.912
0.242 16.560
0.347 15.602
0.524 13.883
0.747 11.584
0.970 9.040
1.180 7.321
1.370 6.047
1.772 5.475
2.390 5.093
3.133 5.093
3.903 4.965
3.976 5.921
4.021 5.156
4.403 5.093
4.883 5.093
5.146 5.284
5.252 5.156
5.304 4.901
5.344 6.111
5.370 4.519
5.435 3.756
5.488 3.374
5.554 3.374
5.626 1.91
5.731 0.954
5.840 0

```

```
;
```

