

ESTES 1/2A3T

CERTIFIED VALUES

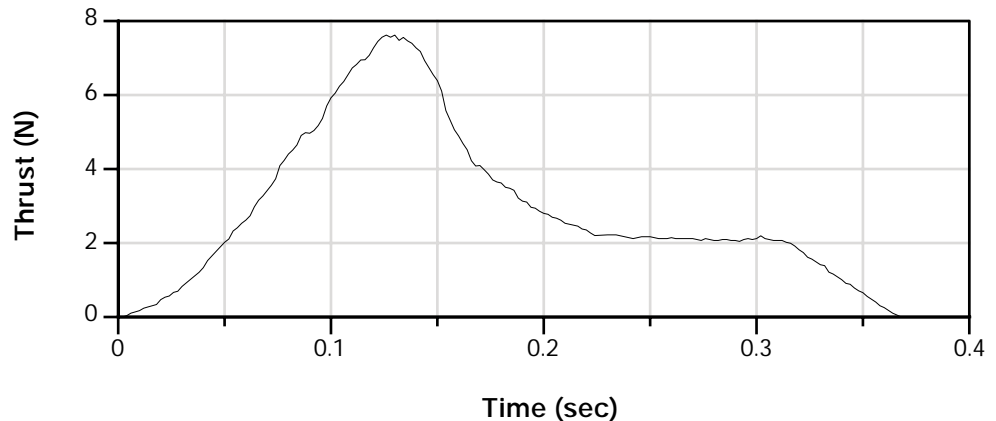
Total Impulse: 1.25 newton-seconds
Delays: 2, 4 seconds
Propellant Type: Black Powder
Propellant Mass: 2.0 grams
Casing Dimensions: 13 mm × 45 mm
Certification Date: Continuing
Contest Use Date: Continuing
Certification Type: Model Rocket

STATIC TEST DATA

Date Tested: 95-June-24
Total Impulse: 1.09 newton-seconds (σ 0.04)
Peak Thrust: 7.62 newtons (σ 1.17)
Burn Time: 0.36 seconds (σ 0.36)
Average Thrust: 3.03 newtons
Mass After Firing: 3.5 grams

Delay Time	Average Measured Delay	Initial Mass	Mfg Recommended Max Liftoff Weight
2	1.38	6.4 g	56.6 g
4	3.08	6.8 g	28.3 g

TYPICAL THRUST-TIME CURVE



REMARKS

; Estes 1/2A3T RASP.ENG file made from NAR published data
; File produced October 3, 2000
; 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.

1/2A3T	13	45	2-4	.002	.0066	E
0.024	0.501					
0.042	1.454					
0.064	3.009					
0.076	4.062					
0.088	4.914					
0.093	5.065					
0.103	6.068					
0.112	6.870					
0.117	7.021					
0.126	7.620					
0.137	7.472					
0.146	6.870					
0.153	6.118					
0.159	5.065					
0.166	4.363					
0.179	3.660					
0.197	2.908					
0.222	2.256					
0.250	2.156					
0.277	2.106					
0.294	2.056					
0.304	2.156					
0.316	1.955					
0.326	1.554					
0.339	1.053					
0.350	0.651					
0.360	0.000					

