

ESTES C5

CERTIFIED VALUES

Total Impulse: 9.5 newton-seconds
Delays: 3 seconds

Propellant Type: Black Powder
Propellant Mass: 11.3 grams

Casing Dimensions: 18 mm × 70 mm

Certification Date: Continuing
Contest Use Date: Continuing

Certification Type: Model Rocket

STATIC TEST DATA

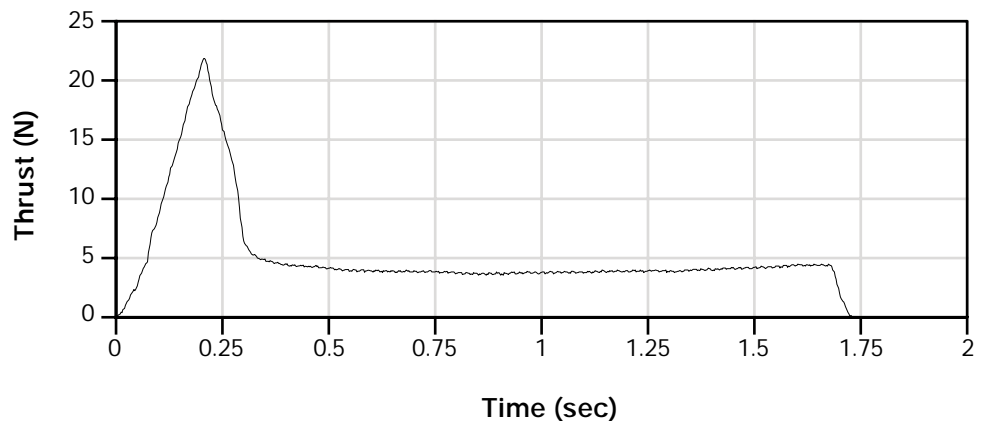
Date Tested: 95-March-25

Total Impulse: 9.10 newton-seconds (σ 0.18)
Peak Thrust: 21.85 newtons (σ 1.40)
Burn Time: 1.73 seconds (σ 0.05)
Average Thrust: 5.26 newtons

Mass After Firing: 9.3 grams

Delay Time	Average Measured Delay	Initial Mass	Mfg Recommended Max Liftoff Weight
3	2.92	24.8 g	226.4 g

TYPICAL THRUST-TIME CURVE



REMARKS

; Estes C5 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.

```
C5 18 70 3 .0113 .0248 E  
0.042 2.195  
0.107 9.118  
0.159 16.213  
0.210 21.850  
0.233 18.407  
0.270 13.677  
0.289 9.793  
0.303 7.092  
0.326 5.065  
0.401 4.390  
0.550 3.883  
0.802 3.714  
1.026 3.883  
1.291 3.883  
1.524 4.221  
1.683 4.221  
1.702 2.195  
1.730 0.000
```

