

ESTES G80

CERTIFIED VALUES

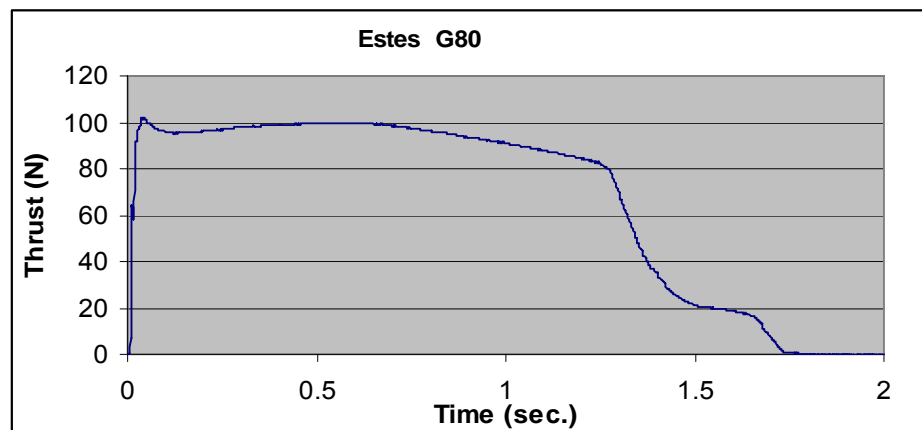
Total Impulse: 136.7 Newton-seconds
Delays: 7, 10
Propellant Type: Blue Thunder
Propellant Mass: 62.5 grams
Casing Dimensions: 29mm × 128mm
Certification Date: November 28, 2007
Certification Type: Model Rocket Motor

STATIC TEST DATA

Date Tested: November 25, 2007
Total Impulse: 136.6 Newton-seconds (σ 3.1)
Peak Thrust: 108.5 Newtons (σ 7.4)
Burn Time: 1.70 seconds (σ 0.03)
Average Thrust: 77.6 Newtons (σ 2.1)
Mass After Firing: 59.3grams

Delay Time(sec.)	7	10	13
Average Measured Delay(sec.)	5.88	9.09	12.85
Initial Mass (gm.)	127.6	127.9	129.3

TYPICAL THRUST-TIME CURVE



REMARKS



Data File #	Engine	Total Impulse	Max Thrust	Avg. Thrust	Burn Time	Delay Time	Initial Weight	Fired Weight
071125W03	G80-7T	135.2	116.2	73.5	1.762	5.77	127.7	58.7
071125W04	G80-7T	140.5	115.6	78.3	1.704	5.75	127.4	59.1
071125W05	G80-7T	140.3	116.8	81.6	1.679	5.86	127.6	59.2
071125W06	G80-7T	135.4	101.8	77.2	1.691	6.13	127.5	59.4
071125W07	G80-10T	138.1	106.1	78.2	1.693	9.16	127.9	59.2
071125W08	G80-10T	139.9	118.8	76.9	1.748	8.12	127.5	59.2
071125W09	G80-10T	137.1	104.9	79.3	1.684	10.00	128.4	59.3
Average		136.64	108.5	77.6	1.701		128.2	59.3
Std Dev		3.096	7.400	2.080	0.031			
Std Dev %		2.3%	6.8%	2.7%	1.8%			
Range	Indicated	Actual	Actual	Actual	Actual	Average		
7	5.5 to 8.5	5.77	5.75	5.86	6.13	5.88		
10	8.0 to 12.0	9.16	8.12	10.00		9.09		

; @File: EstesG80.txt, @Pts-I: 905, @Pts-O: 31, @Sm: 0, @CO: 5%
; @TI: 133.2377, @TIa: 133.1309, @Tle: 0.0%, @ThMax: 102.2, @ThAvg: 77.9911, @Tb: 1.707
; Exported using ThrustCurveTool, www.ThrustGear.com
G78 29 128 7,10 0.0625 0.1282 Estes

0.0060 1.158086
0.0080 7.48984
0.01 33.7575
0.012 64.5955
0.014 62.9316
0.016 58.8272
0.018 74.9118
0.02 85.0062
0.022 91.1072
0.026 93.9913
0.028 98.4284
0.032 97.652
0.038 102.2
0.074 97.3192
0.124 95.4334
0.376 99.3159
0.68 99.4268
0.994 91.6619
1.2459 83.0095
1.2819 77.3522
1.3159 61.9332
1.3599 44.6285
1.4239 29.0986
1.5039 21.2227
1.5979 19.33693
1.6559 16.34188
1.6759 13.90147
1.6779 11.79384
1.7139 5.0938
1.7339 1.388816
1.8079 0.0