

ROADRUNNER G80

CERTIFIED VALUES

Total Impulse: 105.07 newton-seconds
Delays: 4, 7, 10 seconds

Propellant Type: Composite
Propellant Mass: 54.7 grams

Casing Dimensions: 29 mm × 140 mm

Certification Date: 06-April-22
Contest Use Date: 06-June-22

Certification Type: Model Rocket

STATIC TEST DATA

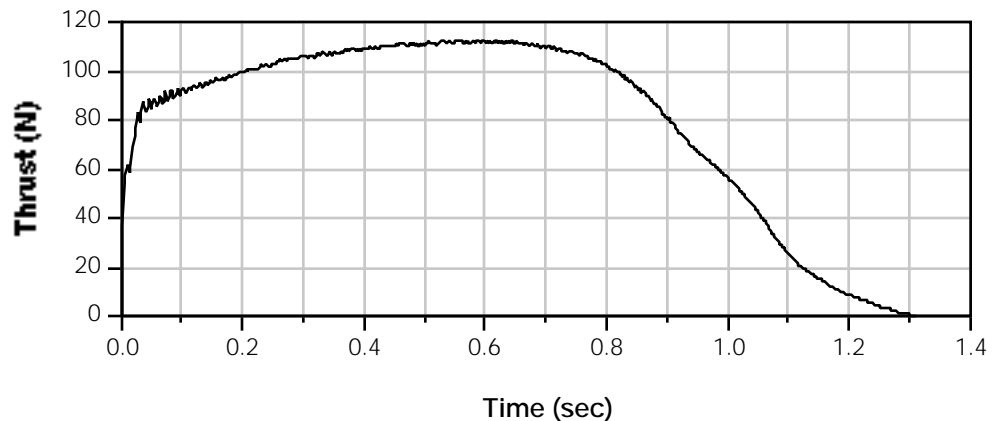
Date Tested: 06-February-25

Total Impulse: 105.07 newton-seconds (1.01)
Peak Thrust: 112.75 newtons (4.51)
Burn Time: 1.31 seconds (0.04)
Average Thrust: 80.47 newtons

Mass After Firing: 69.7 grams

Delay Time	Average Measured Delay	Initial Mass
4	3.73	133.5 g
7	7.08	133.8 g
10	10.20	133.8 g

TYPICAL THRUST-TIME CURVE



REMARKS

Propellant Name: Rapid

			ROAD RUNNER		G80-4, 7, 10					
			ENGINE	TOTAL	MAX	AVG	BURN	DELAY	INIT	BURNT
			TYPE	IMPULSE	THRUST	THRUST	TIME	TIME	WT	WT
			G80-4	106.27	117.06	81.12	1.31	4.20	133.0	69.4
			G80-4	105.33	115.09	81.40	1.29	3.06	133.7	69.8
			G80-4	103.67	108.71	77.48	1.34	3.69	133.4	70.1
			G80-4	105.76	111.99	81.35	1.30	3.97	133.9	70.2
			G80-7	102.66	100.15	72.40	1.42	7.09	133.5	69.7
			G80-7	105.85	114.60	81.55	1.30	6.93	133.8	69.8
			G80-7	105.19	114.84	80.92	1.30	7.17	134.3	70.1
			G80-7	106.00	115.60	81.54	1.30	7.11	133.4	68.9
			G80-10	105.01	113.83	82.17	1.28	10.37	133.3	69.2
			G80-10	104.88	113.00	82.45	1.27	10.17	133.9	70.2
			G80-10	105.14	115.34	82.79	1.27	10.06	134.1	69.5
			AVG	105.07	112.75	80.47	1.31		133.66	69.72
			STD	1.01	4.51	2.87	0.04			
			STD %	0.96	4.00	3.57	3.02			
			DELAYS							
ALLOWABLE									AVG INIT	
RANGE			INDICATED	AVG	ACTUAL	ACTUAL	ACTUAL	ACTUAL	WT	
2.5	TO	5.5	4	3.73	4.20	3.06	3.69	3.97	133.50	
5.6	TO	8.4	7	7.08	7.09	6.93	7.17	7.11	133.75	
8	TO	12	10	10.20	10.37	10.17	10.06		133.77	

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; ROADRUNNER G80 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.

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      G80   29   140   4-7-10   0.055   0.133   RR
0.012   63.563
0.028   84.077
0.057   89.563
0.119   96.03
0.206  102.518
0.242  104.42
0.297  106.923
0.356  109.826
0.422  111.829
0.483  111.328
0.558  112.632
0.622  112.750
0.683  112.129
0.739  109.125
0.796  102.017
0.863   90.494
0.901   82.750
0.935   72.41
0.976   59.869
1.018   49.826
1.028   44.321
1.042   39.805
1.073   28.272
1.113   18.231
1.170   11.176
1.218    4.636
1.310    0.000
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