

AEROTECH G53FJ

CERTIFIED VALUES

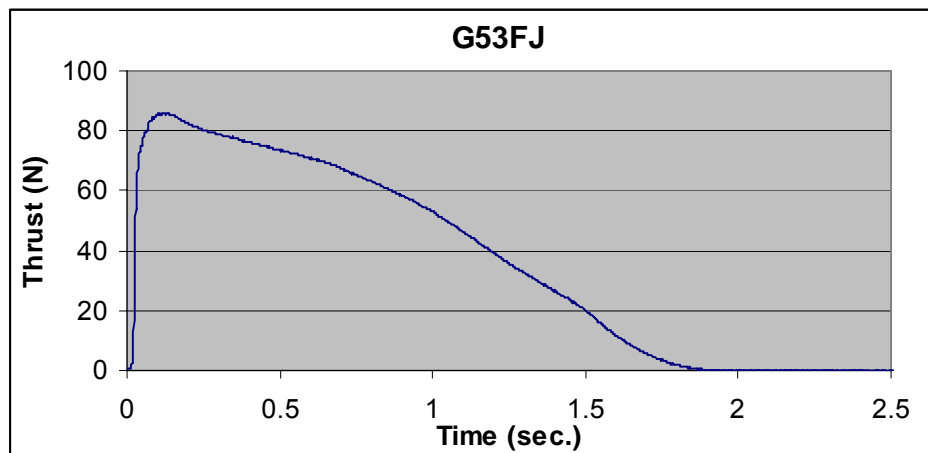
Total Impulse: 90.9 Newton-seconds
Delays: 5, 7, 10 seconds
Propellant Type: Black Max
Propellant Mass: 60.0 grams
Casing Dimensions: 29mm × 124mm
Certification Date: August 31, 2007
Certification Type: Model Rocket Motor

STATIC TEST DATA

Date Tested: May 28, 2007
Total Impulse: 90.9 Newton-seconds (σ 1.0)
Peak Thrust: 87.3 Newtons (σ 5.5)
Burn Time: 1.71 seconds (σ 0.03)
Average Thrust: 53.1 Newtons (σ 1.2)
Mass After Firing: 80.3grams

Delay Time(sec.)	5	7	10
Average Measured Delay(sec.)	5.52	7.25	10.31
Initial Mass (gm.)	146.2	148.2	146.9

TYPICAL THRUST-TIME CURVE



REMARKS

Uses Aerotech RMS 29/40-120 Reload System and Aerotech G53FJ reload kit. No substitutions allowed



Data File #	Engine	Total Impulse	Max Thrust	Avg Thrust	Burn Time	Delay Time	Init Weight	Fired Weight
070524W02	G53-10FJ	92.20	91.20	52.80	1.75	10.81	145.9	79.3
070524W03	G53-10FJ	90.80	88.30	54.60	1.66	11.22	148.8	82.2
070524W04	G53-10FJ	91.70	95.20	55.00	1.67	8.78	147.3	80.5
070528W01	G53-10FJ	88.60	86.10	50.90	1.74	10.44	145.7	78.6
070528W02	G53-7FJ	90.90	79.80	53.30	1.70	6.97	148.1	80.1
070528W03	G53-7FJ	90.30	90.10	53.50	1.69	7.42	148.5	80.7
070528W04	G53-7FJ	90.80	77.70	52.40	1.73	7.36	148.0	79.6
070528W05	G53-5FJ	92.00	86.80	53.20	1.73	5.90	147.2	80.3
070528W06	G53-5FJ	91.30	93.00	52.00	1.76	5.84	144.4	79.5
070528W07	G53-5FJ	90.70	84.50	53.40	1.70	4.83	147.0	81.9
Average		90.93	87.27	53.11	1.71		147.1	80.3

Std Dev		1.022	5.547	1.192	0.033
Std Dev %		1.1%	6.4%	2.2%	1.9%

Range	Indicated	Actual	Actual	Actual	Actual	Actual	Average
3.5 to 6.5	5	5.90	5.84	4.83			5.52

5.5 to 8.5	7	6.97	7.42	7.36			7.25
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8.0 to 12.0	10	10.81	11.22	8.78	10.44		10.31
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; @File: G53FJ_Combined.txt, @Pts-I: 1310, @Pts-O: 32, @Sm: 2, @CO: 5%
; @TI: 90.9683, @Tla: 90.6677, @Tle: 0.0%, @ThMax: 85.8995, @ThAvg: 52.9292, @Tb: 1.713
; Exported using ThrustCurveTool, www.ThrustGear.com
G53 29 124 4,7,10 0.06 0.147 Aerotech

0.0 0.0161325
0.084 0.1733722
0.098 0.875543
0.102 1.976072
0.104 3.2865
0.106 5.66335
0.108 10.00438
0.112 26.8138
0.114 36.5078
0.118 51.1937
0.12 56.7099
0.124 64.8595
0.128 70.2176
0.134 74.2385
0.146 78.8965
0.152 79.8043
0.164 83.1003
0.188 85.6475
0.234 85.447
0.298 82.0177
0.354 79.7728
0.748 69.4245
1.0239 56.7367
1.1599 48.3545
1.3439 35.2918
1.5599 22.1026
1.5999 19.24707
1.6979 11.00489
1.7699 6.58917
1.8179 4.26533
1.9179 1.114743
1.9999 0.0