



2010 Catalog - v1.0

Pro29® reloadable high power rocket motors were introduced in 2009. They share the same features of Pro38®: super-fast and hassle-free assembly, adjustable delays, instant ignition, mess-free unloading and a large selection of hardware and reloads. The Pro29 Delay Adjustment Tool (DAT) is identical to that of the Pro38®. The only thing you need is a small centering ring P29-CR to locate the closure when adjusting the delays.

Pro29-1G : 1.14 x 3.86 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
55F29-12A	1.9	8	Imax™
51F36-14A	1.42	10	Blue Streak™
41F36-11A	1.07	16	Smokey Sam™
57F59-12A	0.96	16	White Thunder™

Pro29-2G : 1.14 x 5.59 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
108G57-12A	1.89	19	Classic™
107G83-14A	1.29	22	Blue Streak™
84G88-11A	0.96	19	Smoky Sam™
116G126-13A	0.93	38	White Thunder™
93G80-14A	1.15	25	Skidmark™

Pro29-3G : 1.14 x 7.36 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
164H90-12A	1.82	35	Classic™
168H87-12A	1.94	31	Imax™
138G106-14A	1.31	29	Skidmark™
159G118-15A	1.35	35	Blue Streak™
163H133-14A	1.23	43	Blue Streak™
159G125-14A	1.27	39	Red Lightning™
159G54-12A	2.97	27	Red Lightning™
125G131-14A	0.96	41	Smoky Sam™
166H163-14A	1.02	49	White Thunder™

Longburn™

Pro29-4G : 1.14 x 9.09 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
216H118-12A	1.83	43	Classic™
176H123-12A	1.44	34	Skidmark™
217H170-14A	1.27	55	Blue Streak™
207H151-15A	1.38	48	Red Lightning™
166H175-14A	0.95	50	Smoky Sam™
229H255-14A	0.9	82	White Thunder™

Pro29-5G : 1.14 x 10.87 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
268H140-11A	1.89	56	Classic™
220H160-14A	1.4	43	Skidmark™
261H200-14A	1.29	68	Blue Streak™
260H194-14A	1.34	66	Red Lightning™
206H237-13A	0.88	67	Smoky Sam™

Pro29-6G : 1.14 x 12.60 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
312H160-12A	1.93	75	Classic™
348I204-13A	1.7	80	Imax™
258H180-14A	1.44	60	Skidmark™
315H255-14A	1.24	92	Blue Streak™
311H233-14A	1.33	80	Red Lightning™
298H159-15A	1.88	42	Green ³ ™
253H295-13A	0.85	81	Smokey Sam™
282H399-12A	0.71	123	White Thunder™

Pro29-6GXL : 1.14 x 14.37 in

<i>Motor Type</i>	<i>Burn time (s)</i>	<i>Peak thrust (lb)</i>	<i>Propellant</i>
381I224-15A	1.7	102	Classic™
305H226-14A	1.35	81	Skidmark™
287H340-14A	0.84	101	Smoky Sam™

Motor Matrix

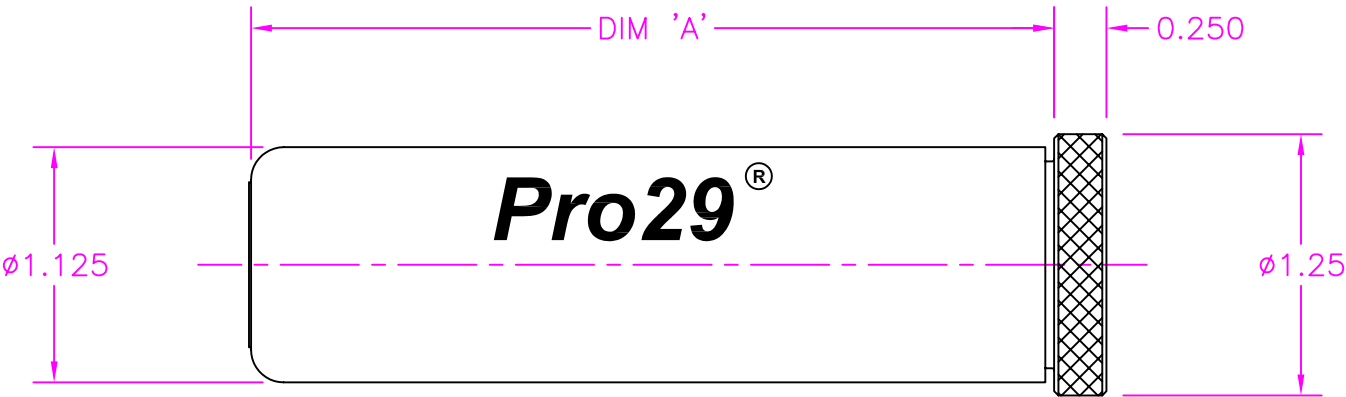
	1G	2G	3G	4G	5G	6G	6GXL
Classic		108G57-12A	164H90-12A	216H118-12A	268H140-12A	312H160-12A	381I224-15A
Red Lightning			159G125-14A	207H151-15A	260H194-14A	311H223-14A	
			159G54-12A				
Blue Streak	51F36-14A	107G83-14A	163H133-14A	217H170-14A	261H200-14A	315H255-14A	
			159G118-15A				
Green ³						298H159-15A	
Smoky Sam	41F36-11A	84G88-11A	125G131-14A	166H175-14A	206H237-13A	253H295-13A	287H340-14A
Skidmark		93G80-14A	138G106-14A	176H123-12A	220H160-14A	258H180-14A	305H226-14A
White Thunder	57F59-12A	116G126-13A	166H163-14A	229H255-14A		282H399-12A	
Imax	55F29-12A		168H87-12A			348I204-13A	

Hardware / Reload Matrix

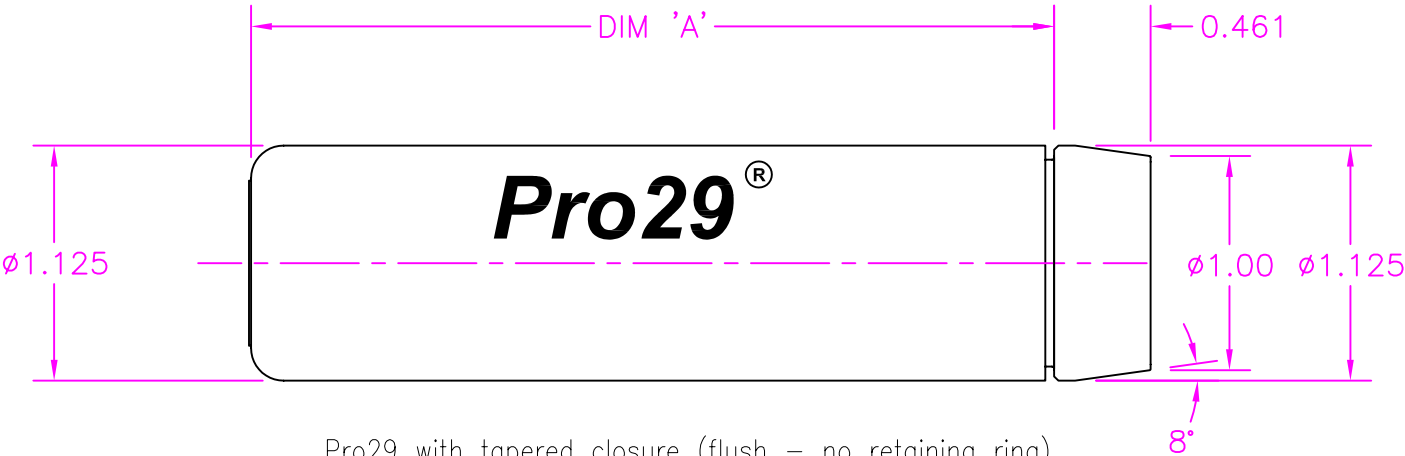
		Reload Size					
Casing Size		1G	2G	3G	4G	5G	6G
	1G	.	x	x	x	x	x
	2G	1x P29-SP	.	x	x	x	x
	3G	2x P29-SP	1x P29-SP	.	x	x	x
	4G	x	2x P29-SP	1x P29-SP	.	x	x
	5G	x	x	2x P29-SP	1x P29-SP	.	x
	6G	x	x	x	2x P29-SP	1x P29-SP	.
	6GXL	x	x	x	x	2x P29-SP	1x P29-SP

Legend: . = no extra hardware required, x = not possible

Type	DIM 'A'
1G	3.85
2G	5.60
3G	7.35
4G	9.10
5G	10.85
6G	12.60
6GXL	14.35



Pro29 with regular closure



Pro29 with tapered closure (flush – no retaining ring)

REV	DESCRIPTION	DRAWN	CHKD	DATE
REVISIONS All changes must be processed and reprinted. Destroy all previous copies.				



CESARONI
TECHNOLOGY
INCORPORATED

2561 STOUFFVILLE ROAD GORMLEY ONTARIO CANADA

Unless Otherwise Specified

X/X ± 1/64
.XX ± 0.010
.XXX ± 0.002
.XXXX ± 0.0005
X' ± 0'-30'

BREAK ALL SHARP EDGES .01 X 45°

CHAMFER ALL TAPPED HOLES 90° TO THREADED DIAMETER

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SCALE: 1:1

DRAWN BY: A.L.T.

WEIGHT: -

DATE (DD/MM/YY): 12/03/09

LINEAR MEASURE: INCHES [MM]

CUSTOMER: -

FILE NAME: Pro29_dimensions.dwg

TITLE: Pro29 Motor Hardware Dimensions

SHEET: 1 OF 1

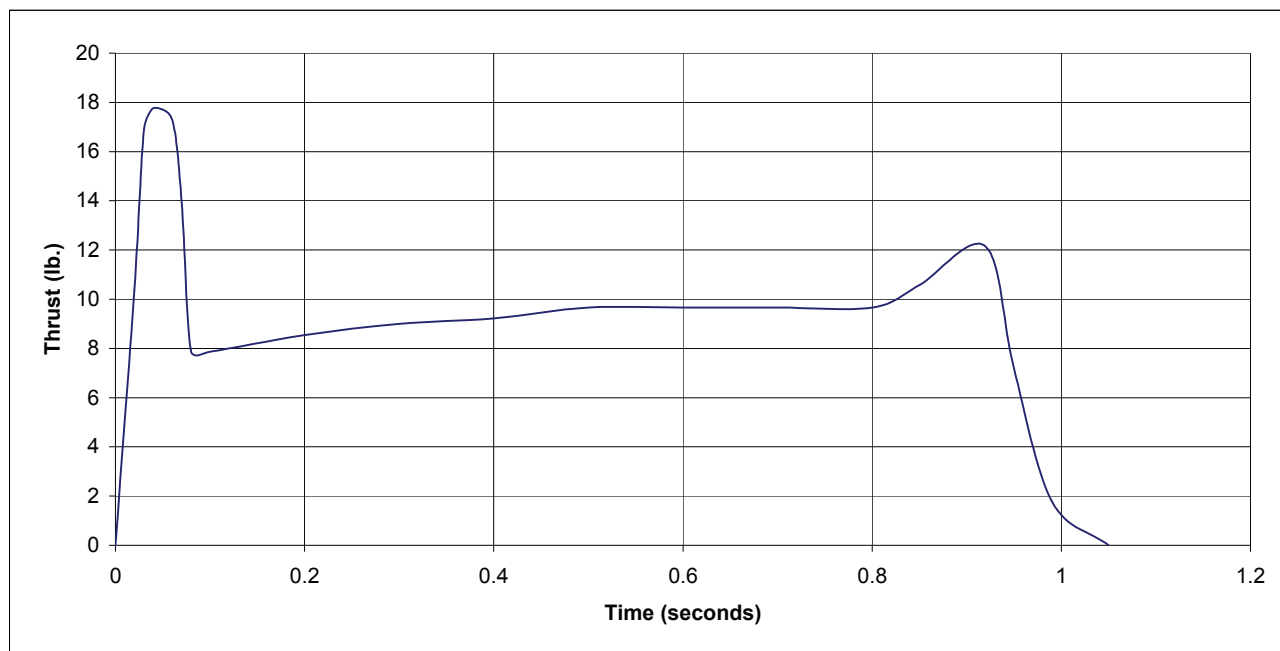
PROJECT #: 0

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	101.00 g (3.54 oz)
Propellant Weight	25.60 g (0.90 oz)
Burnout Weight	69.00 g (2.42 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	29.00 x 98.00 mm (1.14 x 3.86 in)
Maximum Thrust	51.50 Ns (11.59 lb/s)
Avg Thrust	46.30 N (10.42 lb)
ISP	36.40 N (8.19 lb)
Burntime	205.09 s
	1.42 s

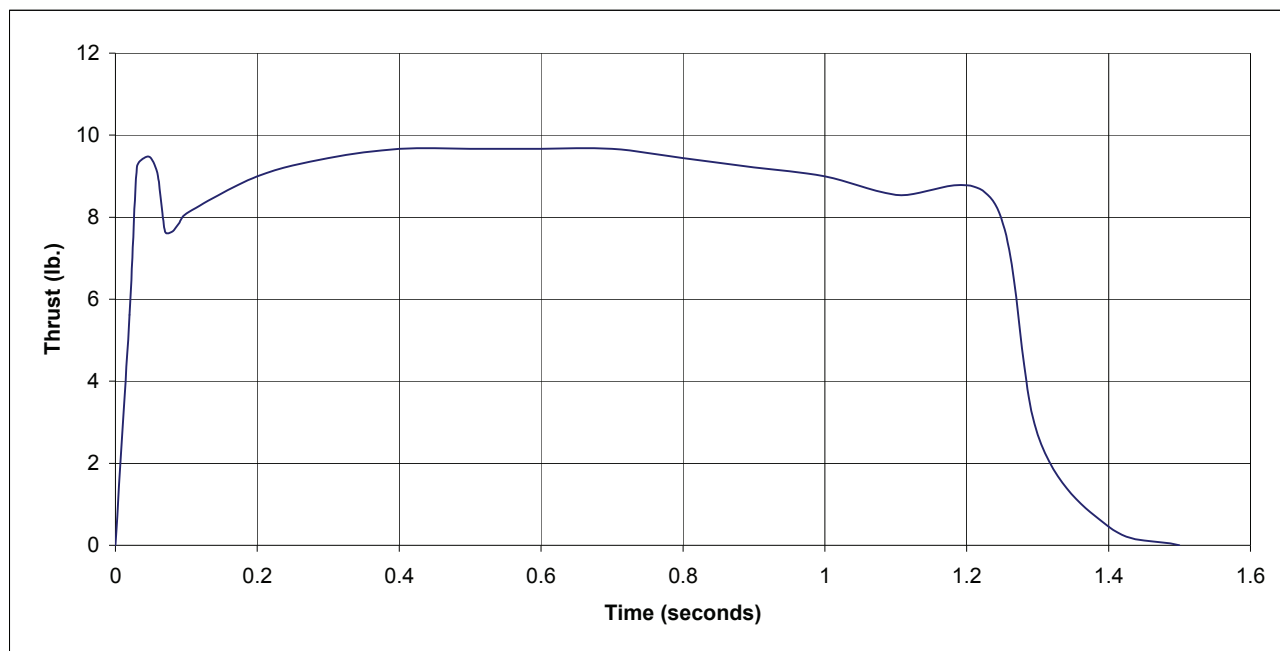
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	104.00 g (3.64 oz)
Propellant Weight	29.50 g (1.03 oz)
Burnout Weight	69.00 g (2.42 oz)
Delays Tested	2, 4, 6, 8, 11 s, adjustable

Motor Dimensions mm

Motor Dimensions mm	29.00 x 98.00 mm (1.14 x 3.86 in)
Total Impulse	41.20 Ns (9.27 lb/s)
Maximum Thrust	72.70 N (16.36 lb)
Avg Thrust	38.50 N (8.66 lb)
ISP	142.32 s
Burntime	1.07 s

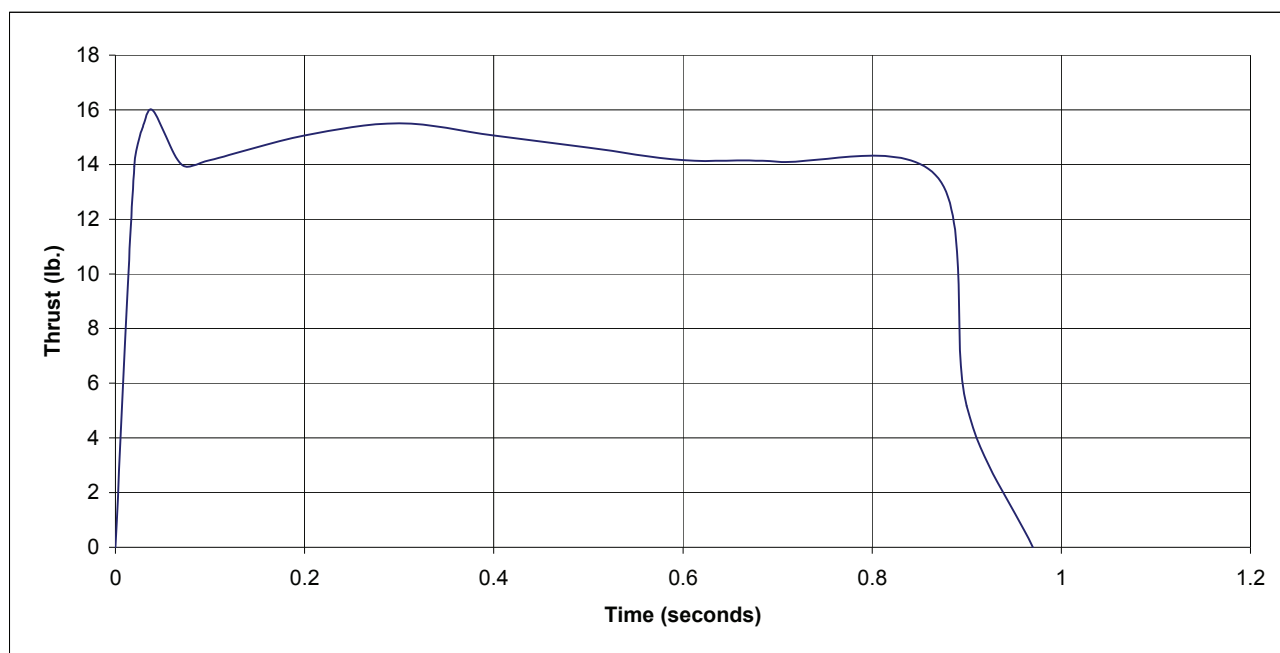
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	99.00 g (3.47 oz)
Propellant Weight	26.10 g (0.91 oz)
Burnout Weight	68.00 g (2.38 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Motor Dimensions mm	29.00 x 98.00 mm (1.14 x 3.86 in)
Total Impulse	57.00 Ns (12.83 lb/s)
Maximum Thrust	70.90 N (15.95 lb)
Avg Thrust	58.90 N (13.25 lb)
ISP	222.72 s
Burntime	0.96 s

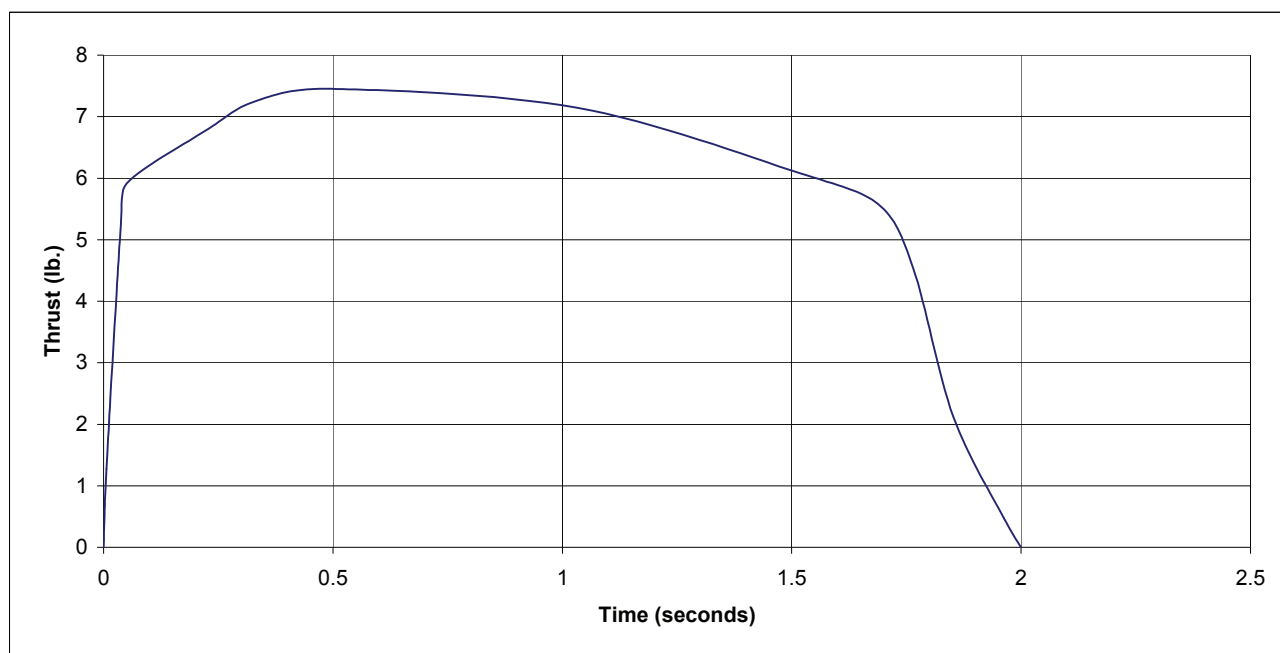
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	105.8 g
Propellant Weight	30.9 g
Burnout Weight	68.2 g
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	54.8 Ns (12.3 lb-s)
Maximum Thrust	36.0 N (8.1 lb)
Avg Thrust	28.9 N (6.5 lb)
ISP	180.85 s
Burntime	1.90 s

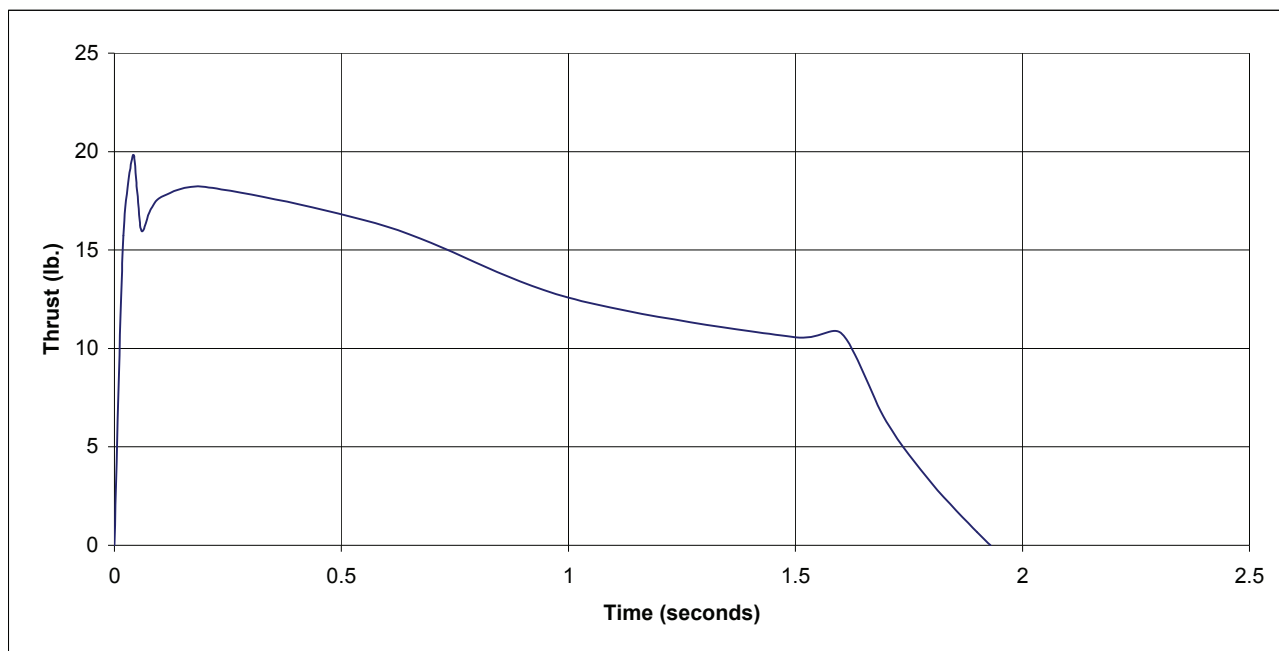
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	146.00 g (5.11 oz)
Propellant Weight	51.40 g (1.80 oz)
Burnout Weight	87.00 g (3.05 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	107.80 Ns (24.25 lb/s)
Maximum Thrust	85.40 N (19.22 lb)
Avg Thrust	57.20 N (12.87 lb)
ISP	213.78 s
Burntime	1.89 s

Notes**Representative Thrust Curve**

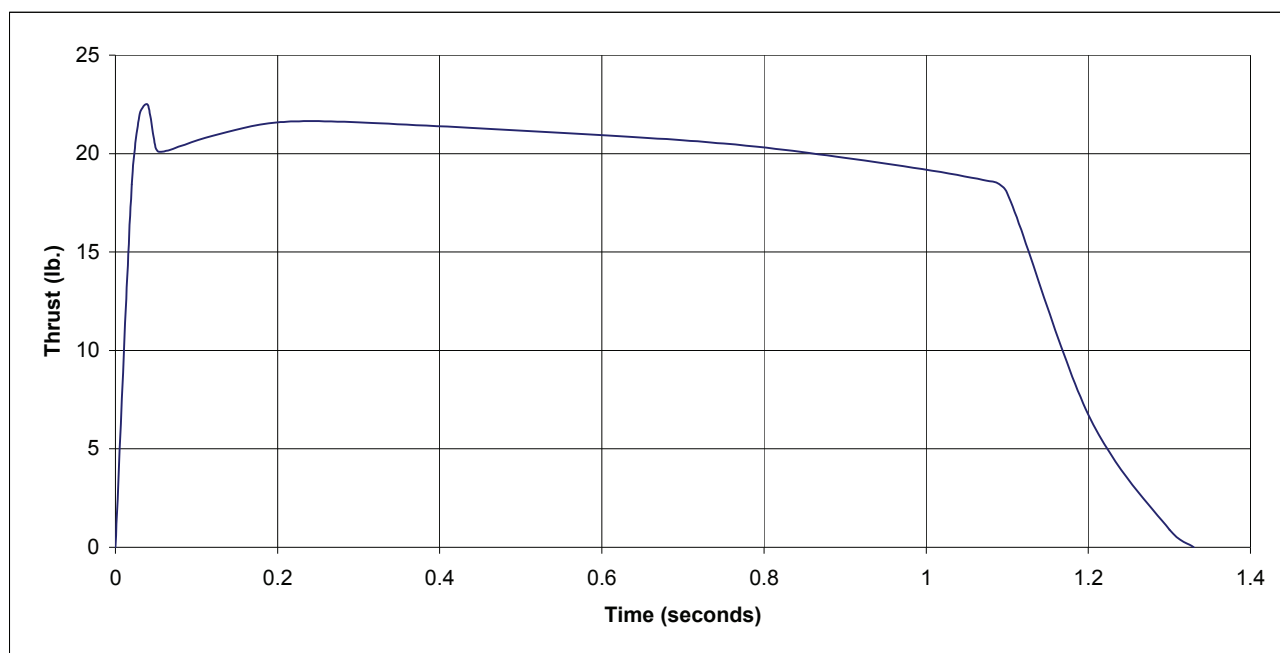
Robert Garbee's Little Nuke flying on a G57 (photo Ray Lapanse)

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	145.00 g (5.08 oz)
Propellant Weight	51.10 g (1.79 oz)
Burnout Weight	87.00 g (3.05 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	107.40 Ns (24.17 lb/s)
Maximum Thrust	99.00 N (22.28 lb)
Avg Thrust	83.10 N (18.70 lb)
ISP	214.35 s
Burntime	1.29 s

Notes**Representative Thrust Curve**

Greg Jazorski's AMRAAM (photo Ray Lapanse)

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	143.2 g
Propellant Weight	50.0 g
Burnout Weight	86.8 g
Delays Tested	5, 7, 9, 11, 14 s, adjustable

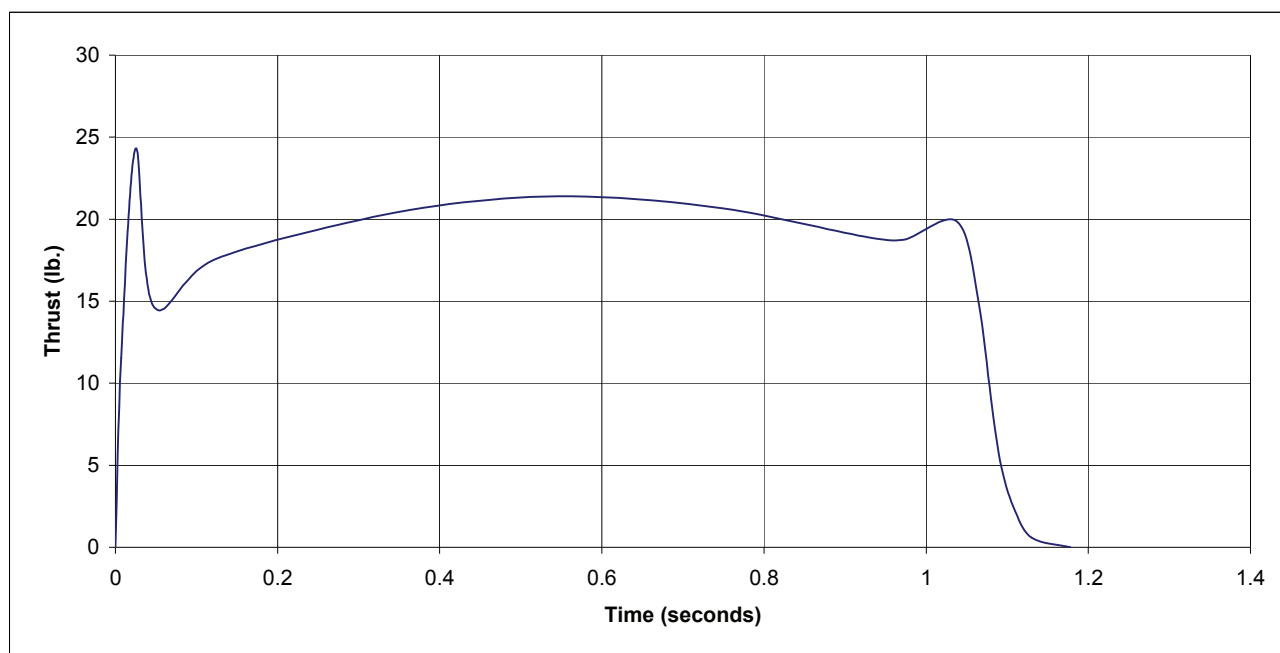
Motor Dimensions mm

Total Impulse	92.9 Ns (20.9 lb-s)
Maximum Thrust	112.2 N (25.2 lb)
Avg Thrust	80.5 N (18.1 lb)
ISP	189.40 s
Burntime	1.15 s

29.00 x 142.00 mm (1.14 x 5.59 in)

Notes

HPR motor because average thrust >80.

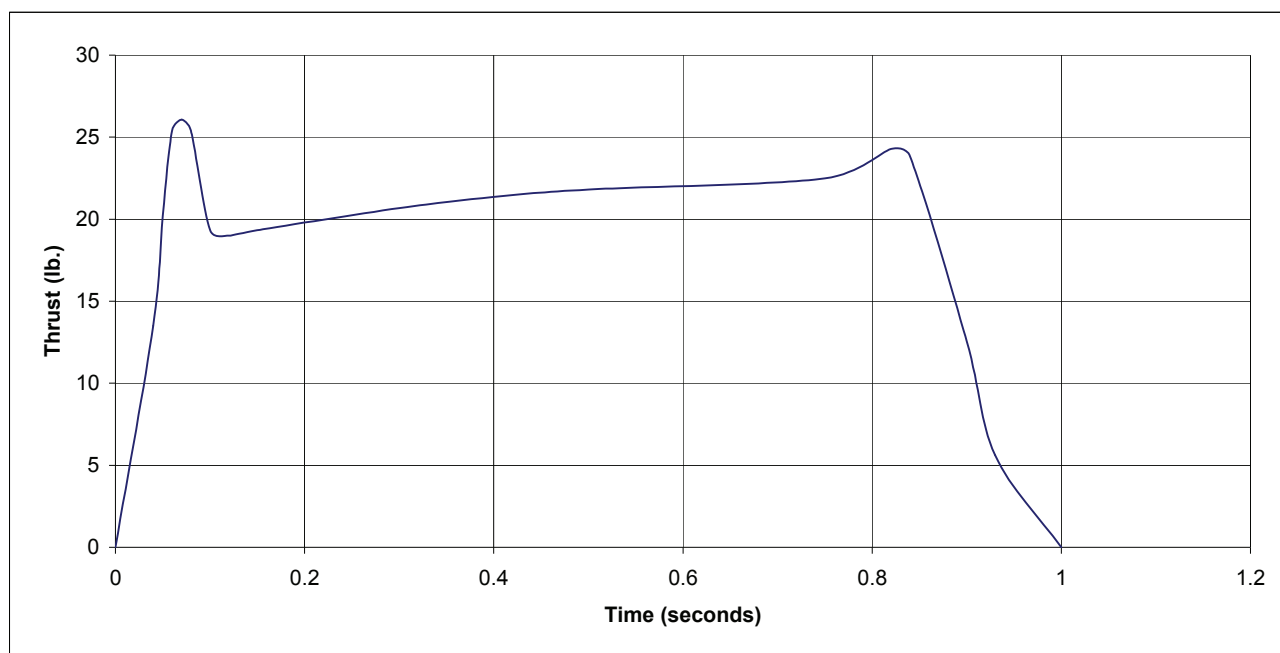
Representative Thrust Curve

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	152.00 g (5.32 oz)
Propellant Weight	59.00 g (2.07 oz)
Burnout Weight	88.00 g (3.08 oz)
Delays Tested	2, 4, 6, 8, 11 s, adjustable

Motor Dimensions mm

Total Impulse	84.30 Ns (18.97 lb/s)
Maximum Thrust	123.60 N (27.81 lb)
Avg Thrust	87.80 N (19.75 lb)
ISP	145.74 s
Burntime	0.96 s

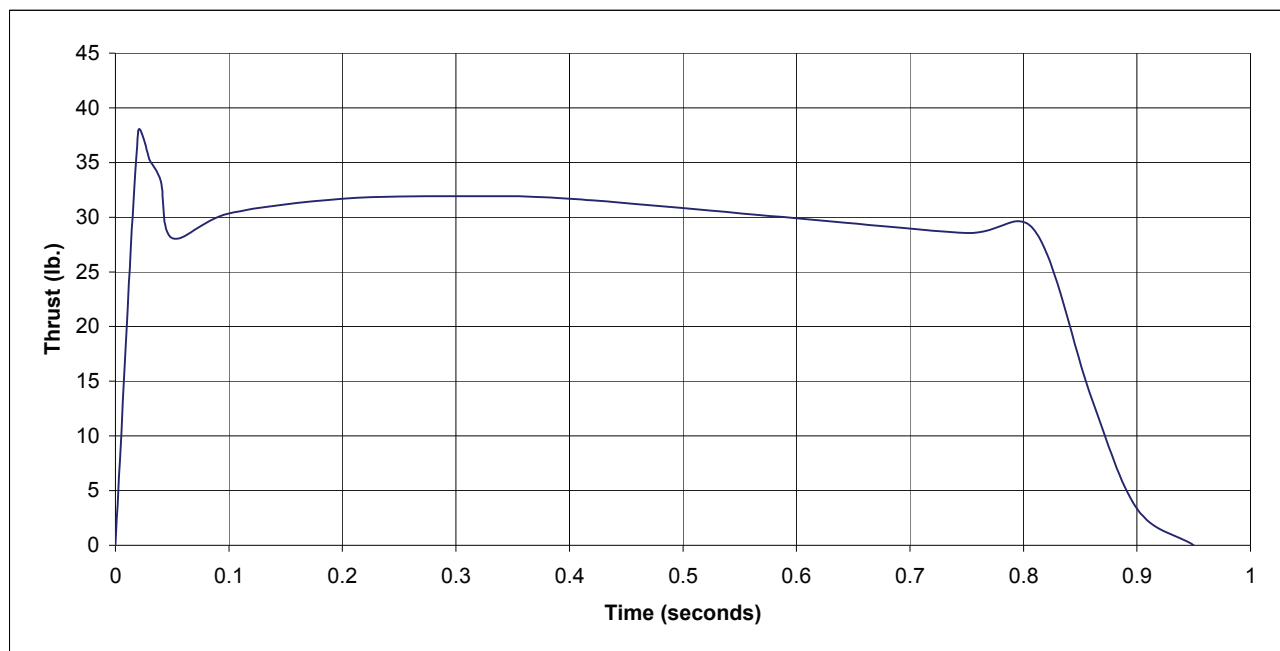
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	145.00 g (5.08 oz)
Propellant Weight	52.10 g (1.82 oz)
Burnout Weight	86.00 g (3.01 oz)
Delays Tested	4, 6, 8, 10, 13 s, adjustable

Motor Dimensions mm

Total Impulse	29.00 x 142.00 mm (1.14 x 5.59 in)
Maximum Thrust	116.00 Ns (26.10 lb/s)
Avg Thrust	167.40 N (37.66 lb)
ISP	125.80 N (28.30 lb)
Burntime	227.03 s
	0.93 s

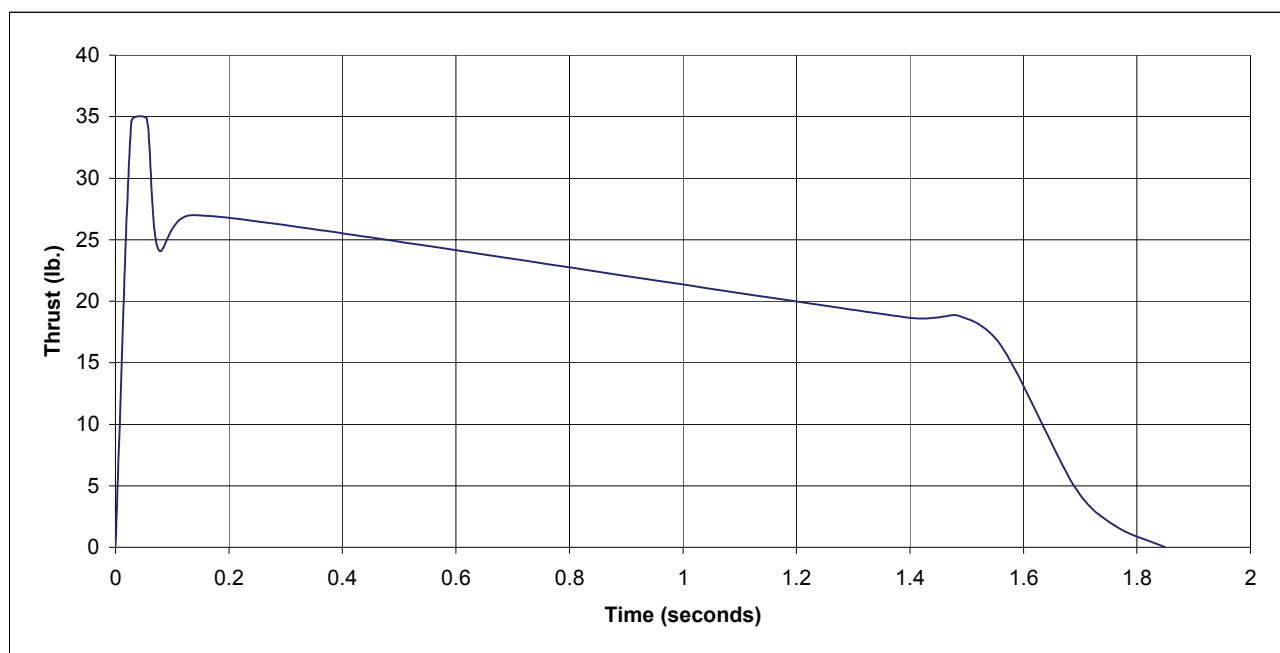
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	163.00 g (5.71 oz)
Propellant Weight	77.10 g (2.70 oz)
Burnout Weight	106.00 g (3.71 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	29.00 x 187.00 mm (1.14 x 7.36 in)
Maximum Thrust	164.20 Ns (36.95 lb/s)
Avg Thrust	154.10 N (34.67 lb)
ISP	90.30 N (20.32 lb)
Burntime	217.15 s
	1.82 s

Notes**Representative Thrust Curve**

Motor Data**Single-Use/Reload/Hybrid**

Reloadable

Loaded Weight

190.00 g (6.65 oz)

Propellant Weight

76.70 g (2.68 oz)

Burnout Weight

105.00 g (3.68 oz)

Delays Tested

5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

29.00 x 187.00 mm (1.14 x 7.36 in)

Total Impulse

163.30 Ns (36.74 lb/s)

Maximum Thrust

191.10 N (43.00 lb)

Avg Thrust

133.10 N (29.95 lb)

ISP

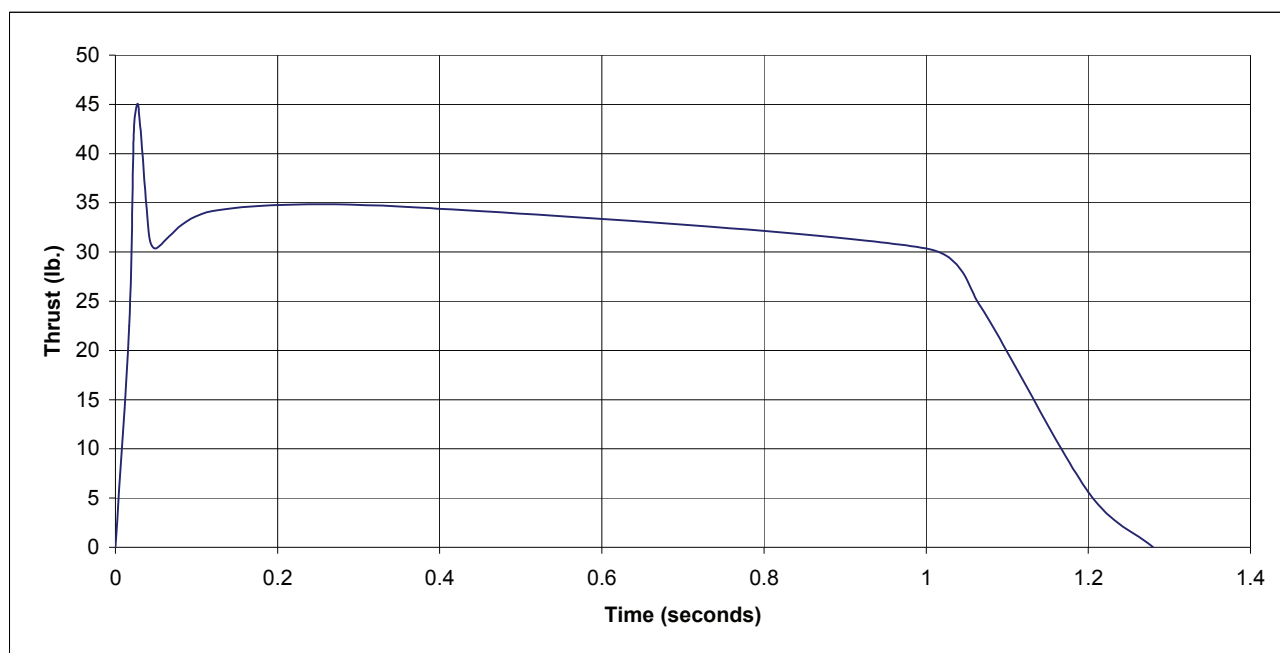
217.13 s

Burntime

1.23 s

Notes

'H' variant, also available as a full 'G' motor

Representative Thrust Curve

Motor Data**Single-Use/Reload/Hybrid**

Reloadable

Loaded Weight

188.00 g (6.58 oz)

Propellant Weight

76.70 g (2.68 oz)

Burnout Weight

105.00 g (3.68 oz)

Delays Tested

6, 8, 10, 12, 15 s, adjustable

Motor Dimensions mm

29.00 x 187.00 mm (1.14 x 7.36 in)

Total Impulse

159.10 Ns (35.80 lb/s)

Maximum Thrust

157.30 N (35.39 lb)

Avg Thrust

117.80 N (26.50 lb)

ISP

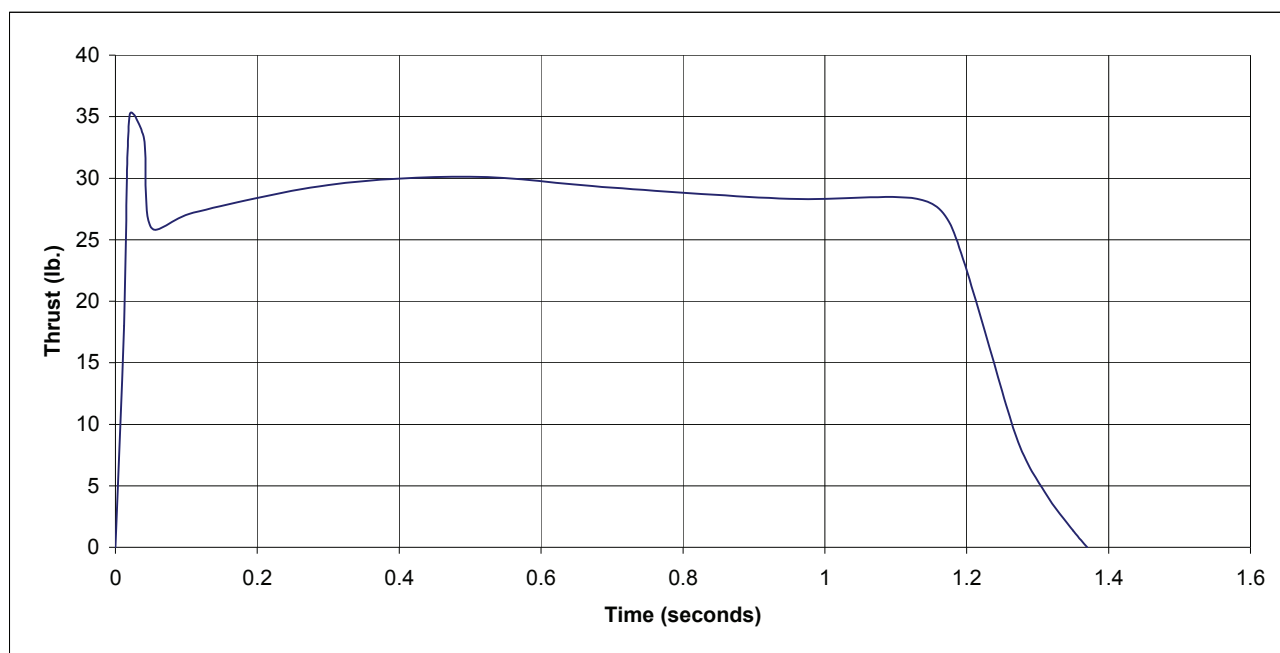
211.58 s

Burntime

1.35 s

Notes

Full 'G' variant, also available as an 'H' motor

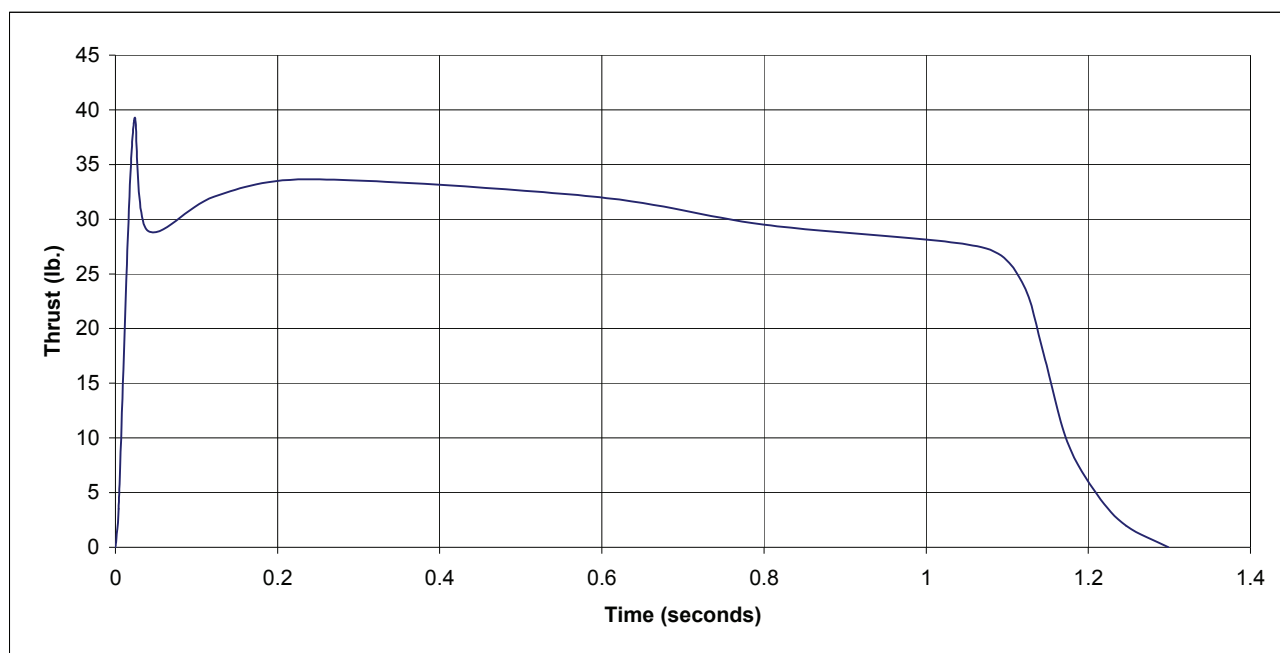
Representative Thrust Curve

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	194.50 g (6.86 oz)
Propellant Weight	81.9 g
Burnout Weight	104.9 g
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

29.00 x 187.00 mm (1.14 x 7.36 in)

Total Impulse 159.6 Ns**Maximum Thrust** 171.8 N**Avg Thrust** 125.3 N**ISP** 198.7 s**Burntime** 1.27 s**Notes****Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	198.2 g
Propellant Weight	86.5 g
Burnout Weight	101.4 g
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

29.00 x 187.00 mm (1.14 x 7.36 in)

Total Impulse

159.1 Ns

Maximum Thrust

119.2 N (26.8 lb)

Avg Thrust

53.6 N (12.1 lb)

ISP

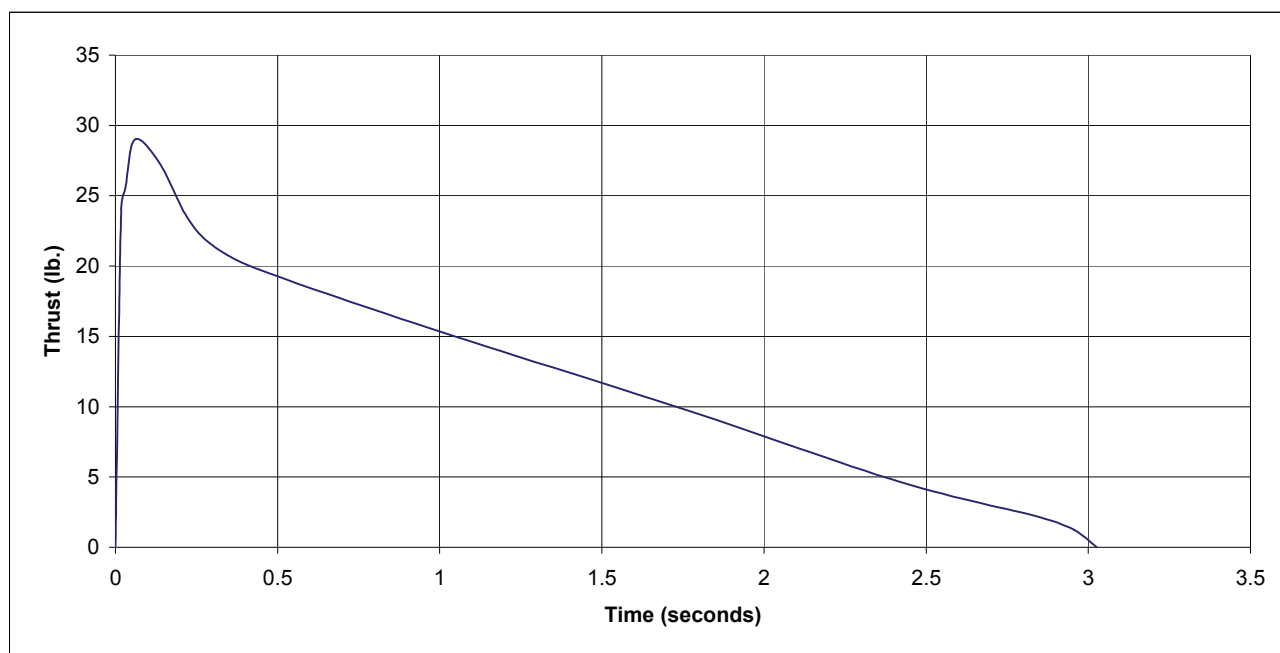
187.53 s

Burntime

2.97 s

Notes

Longburn motor series

Representative Thrust Curve

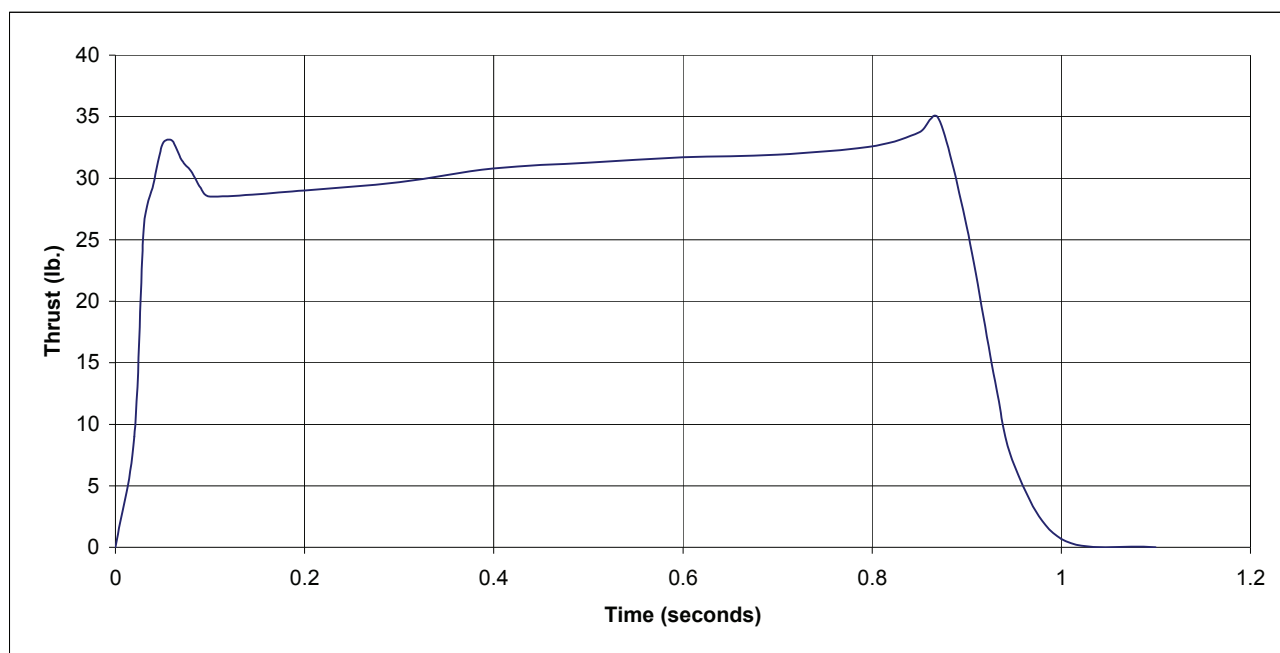
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	200.00 g (7.00 oz)
Propellant Weight	88.60 g (3.10 oz)
Burnout Weight	106.00 g (3.71 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	125.20 Ns (28.17 lb/s)
Maximum Thrust	182.60 N (41.09 lb)
Avg Thrust	130.80 N (29.43 lb)
ISP	144.06 s
Burntime	0.96 s

29.00 x 187.00 mm (1.14 x 7.36 in)

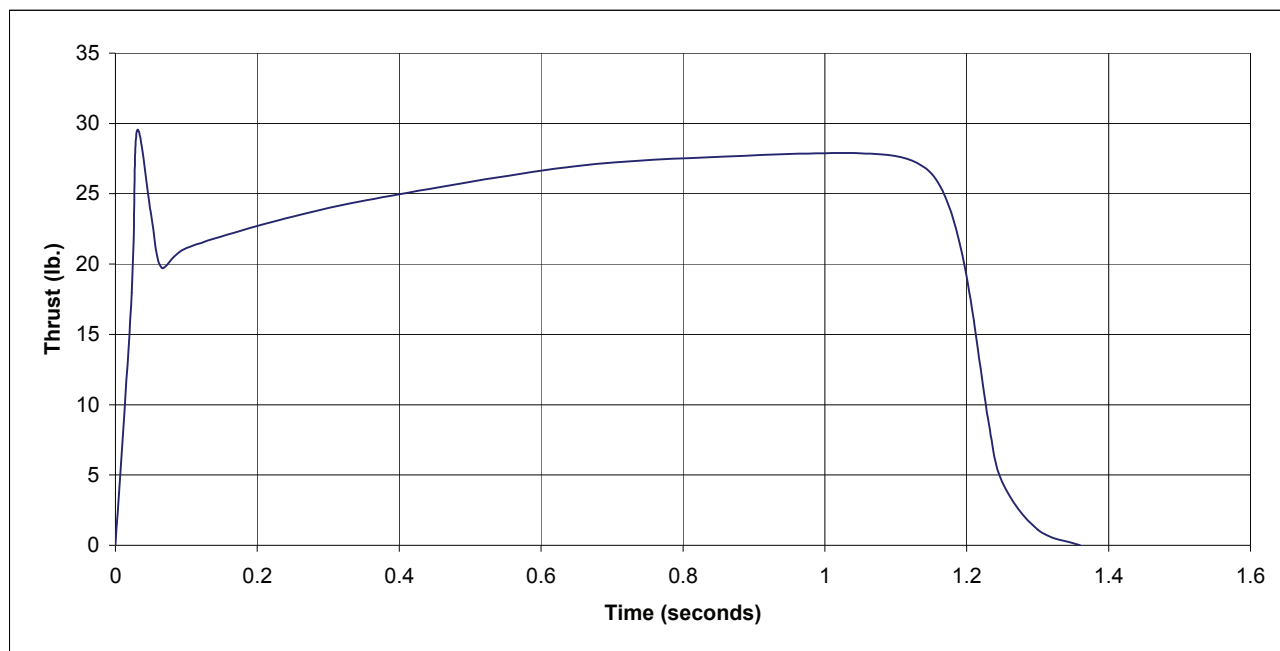
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	187.00 g (6.55 oz)
Propellant Weight	75.00 g (2.63 oz)
Burnout Weight	106.00 g (3.71 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	138.30 Ns (31.12 lb/s)
Maximum Thrust	128.70 N (28.96 lb)
Avg Thrust	106.00 N (23.85 lb)
ISP	187.99 s
Burntime	1.31 s

Notes**Representative Thrust Curve**

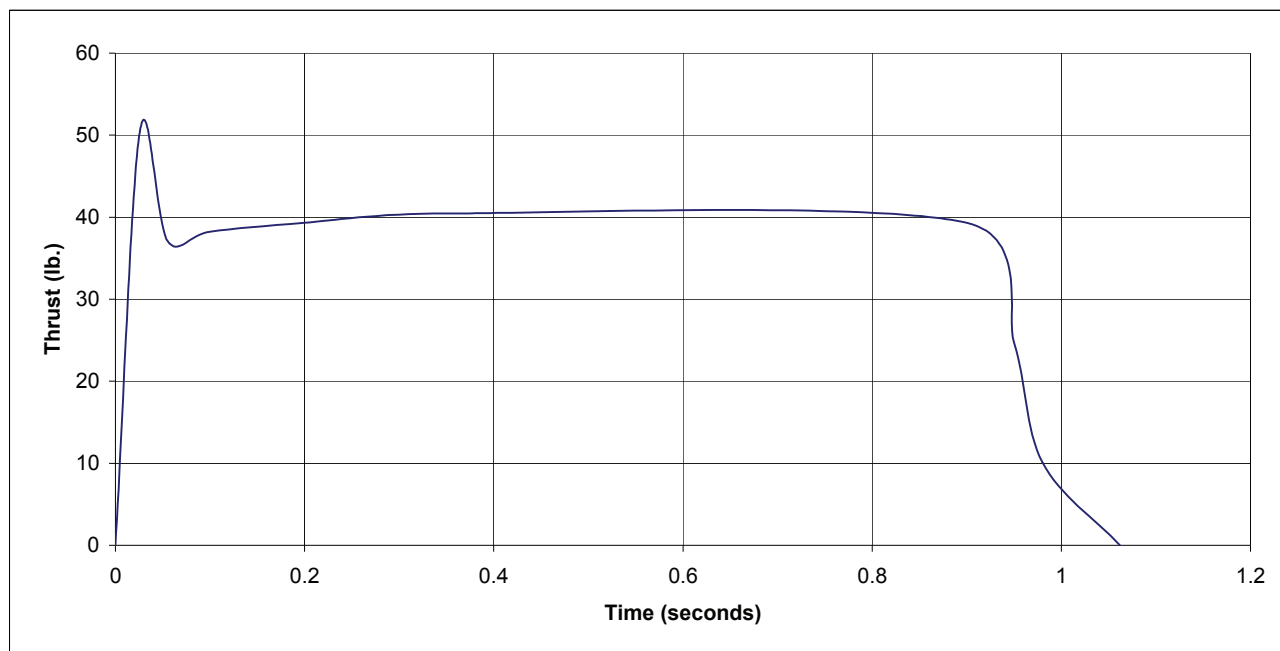
Vaughn Brothers rocket - Tim Thomas - Colorado 2009

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	187.00 g (6.55 oz)
Propellant Weight	78.20 g (2.74 oz)
Burnout Weight	101.00 g (3.54 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	29.00 x 187.00 mm (1.14 x 7.36 in)
Maximum Thrust	166.30 Ns (37.42 lb/s)
Avg Thrust	216.90 N (48.80 lb)
ISP	162.70 N (36.61 lb)
Burntime	216.86 s
	1.02 s

Notes**Representative Thrust Curve**

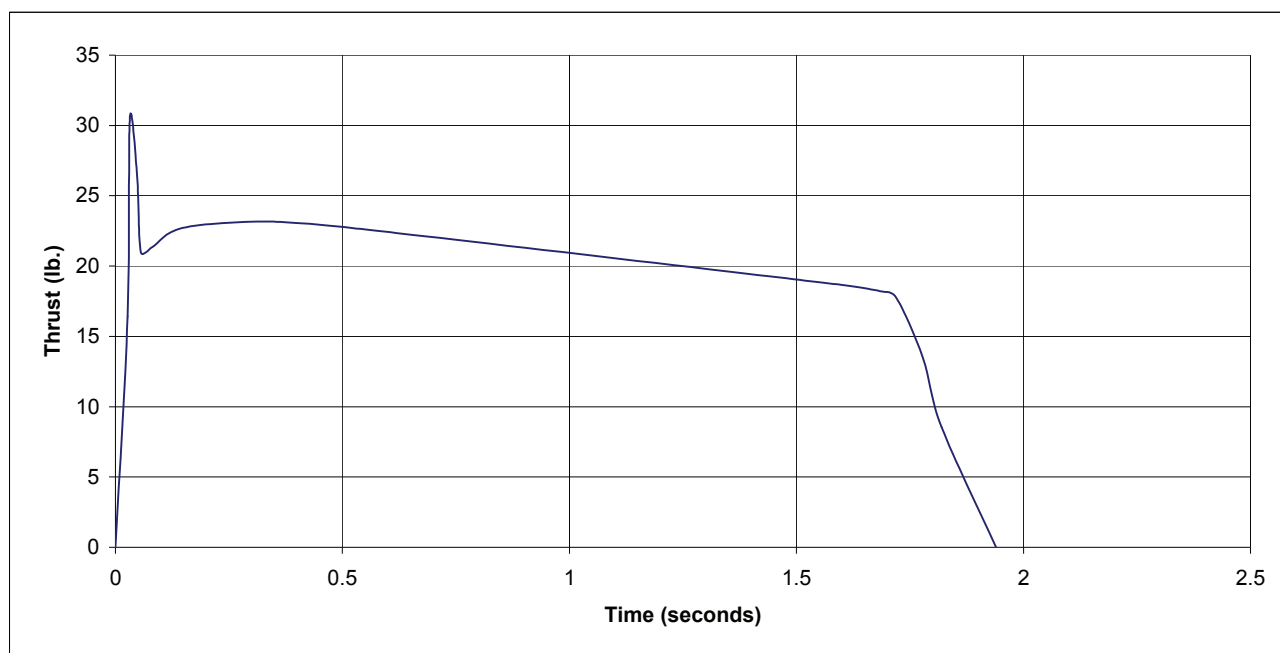
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	205.00 g (7.18 oz)
Propellant Weight	92.70 g (3.24 oz)
Burnout Weight	104.00 g (3.64 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	167.90 Ns (37.78 lb/s)
Maximum Thrust	139.20 N (31.32 lb)
Avg Thrust	86.70 N (19.51 lb)
ISP	184.72 s
Burntime	1.94 s

29.00 x 187.00 mm (1.14 x 7.36 in)

Notes**Representative Thrust Curve**

Pro29-4G 216H118-12A Classic



Motor Data

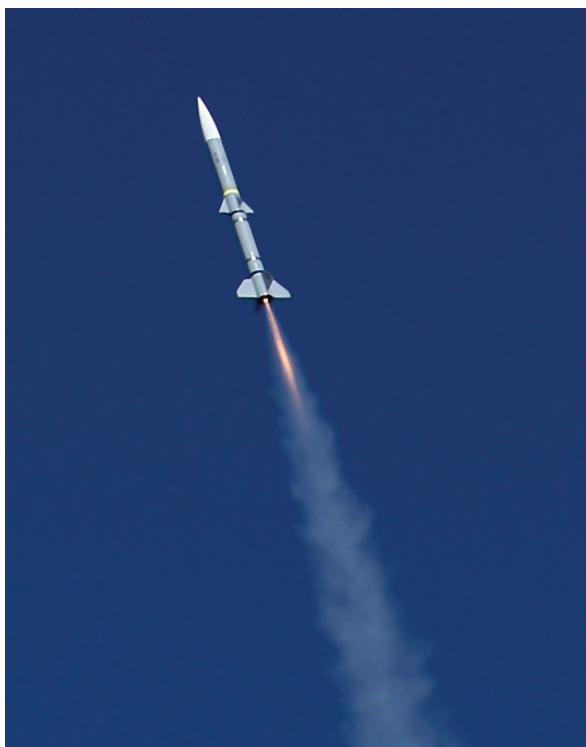
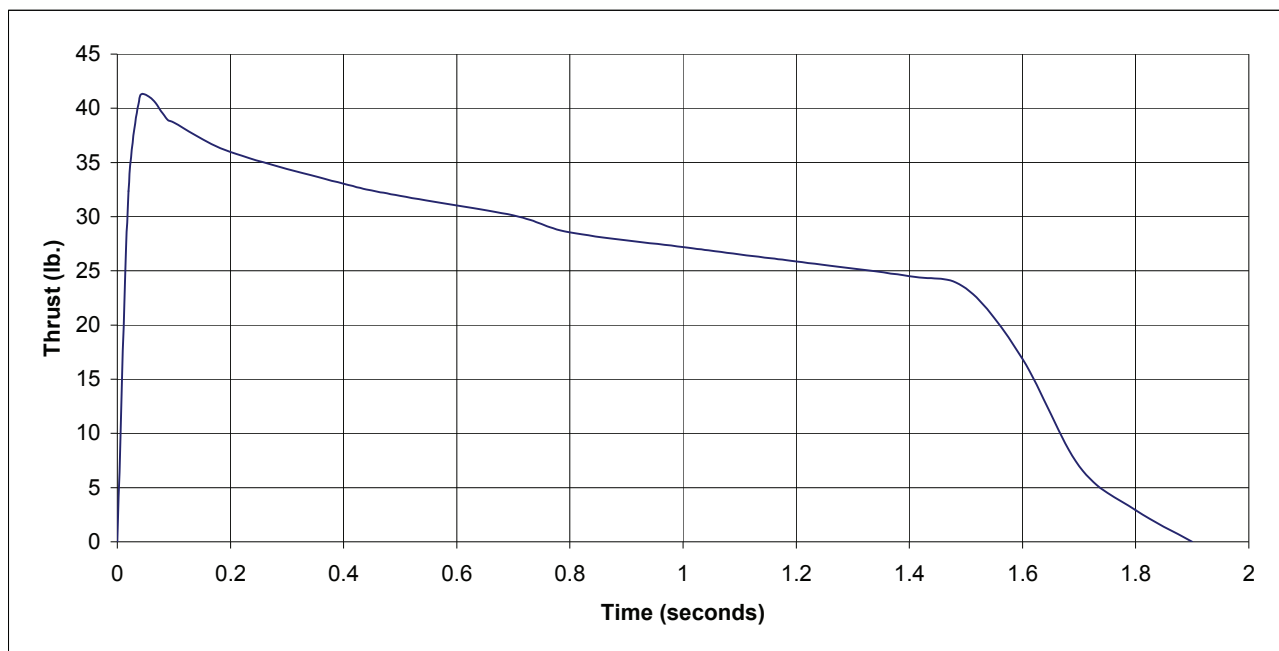
Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	232.00 g (8.12 oz)
Propellant Weight	102.80 g (3.60 oz)
Burnout Weight	121.00 g (4.24 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	216.20 Ns (48.64 lb/s)
Maximum Thrust	191.30 N (43.04 lb)
Avg Thrust	118.40 N (26.64 lb)
ISP	214.50 s
Burntime	1.83 s

Notes

Representative Thrust Curve



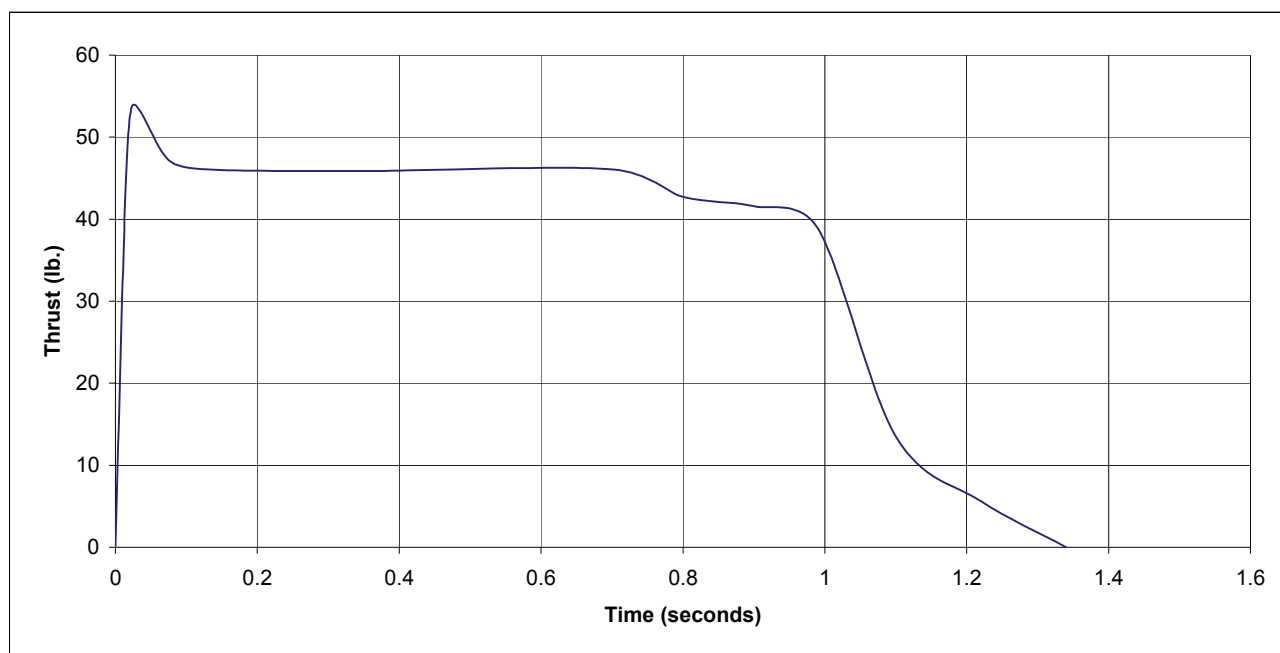
Greg Jazorski's AMRAAM (photo Ray Lapanse)

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	232.00 g (8.12 oz)
Propellant Weight	102.30 g (3.58 oz)
Burnout Weight	121.00 g (4.24 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	217.10 Ns (48.85 lb/s)
Maximum Thrust	243.80 N (54.86 lb)
Avg Thrust	171.30 N (38.54 lb)
ISP	216.42 s
Burntime	1.27 s

Notes**Representative Thrust Curve**

Motor Data

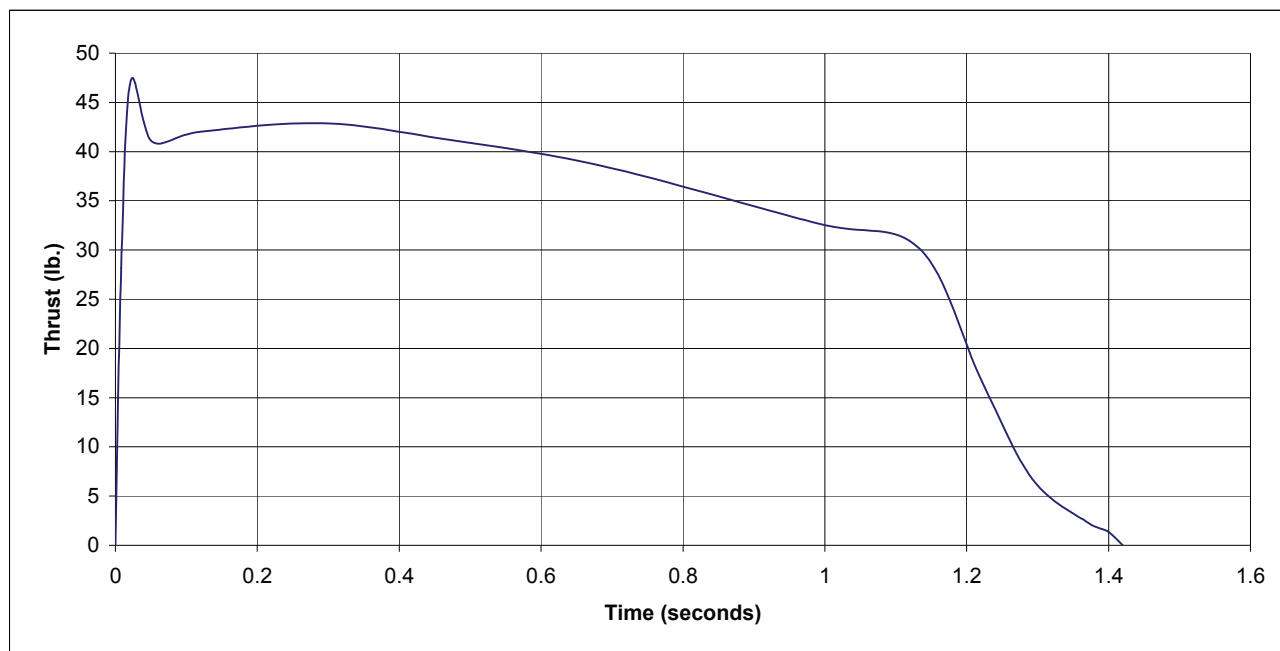
Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	238.0 g
Propellant Weight	109.2 g
Burnout Weight	120 g
Delays Tested	6, 8, 10, 12, 15 s, adjustable

Motor Dimensions mm

Motor Dimensions mm	29.00 x 231.00 mm (1.14 x 9.09 in)
Total Impulse	207.2 Ns (46.6 lb/s)
Maximum Thrust	214.8 N (48.3 lb)
Avg Thrust	150.8 N (33.9 lb)
ISP	192.7 s
Burntime	1.38 s

Notes

Red Lightning

Representative Thrust Curve

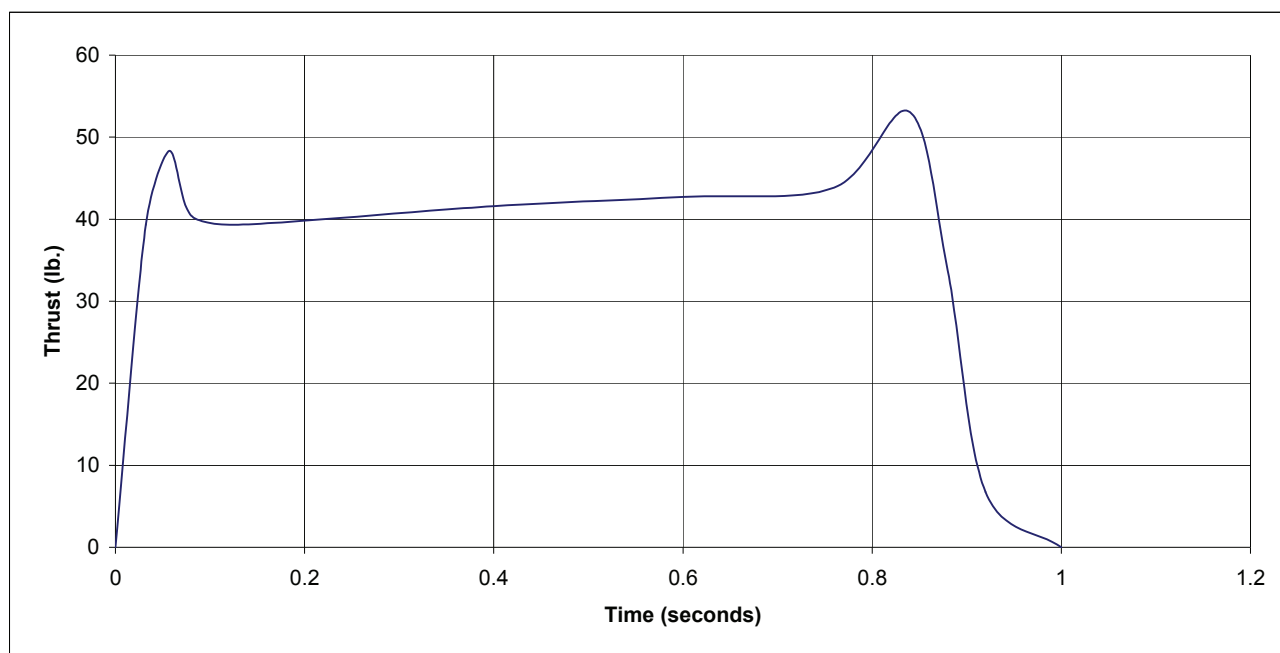
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	247.00 g (8.65 oz)
Propellant Weight	118.10 g (4.13 oz)
Burnout Weight	125.00 g (4.38 oz)
Delays Tested	5, 7, 9, 11, 14s, adjustable

Motor Dimensions mm

Total Impulse	166.00 Ns (37.35 lb/s)
Maximum Thrust	221.60 N (49.86 lb)
Avg Thrust	175.10 N (39.40 lb)
ISP	143.32 s
Burntime	0.95 s

29.00 x 231.00 mm (1.14 x 9.09 in)

Notes**Representative Thrust Curve**

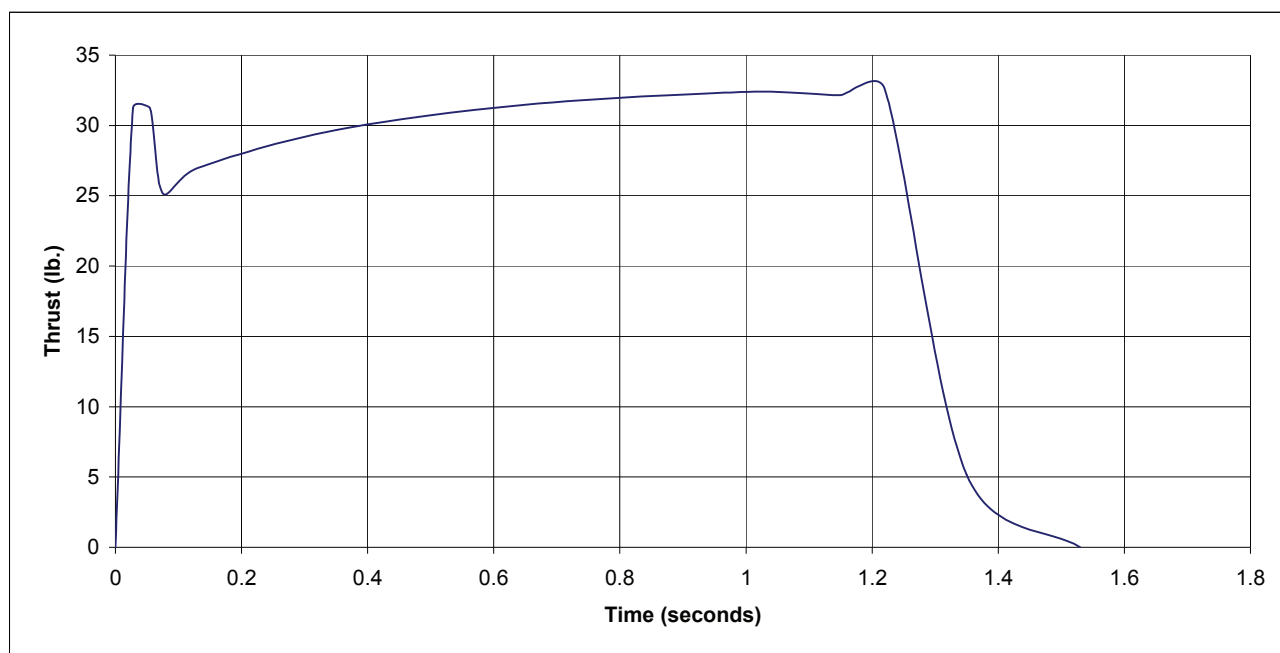
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	228.00 g (7.98 oz)
Propellant Weight	100.00 g (3.50 oz)
Burnout Weight	122.00 g (4.27 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	176.50 Ns (39.71 lb/s)
Maximum Thrust	149.80 N (33.71 lb)
Avg Thrust	123.00 N (27.68 lb)
ISP	179.97 s
Burntime	1.44 s

29.00 x 231.00 mm (1.14 x 9.09 in)

Notes**Representative Thrust Curve**

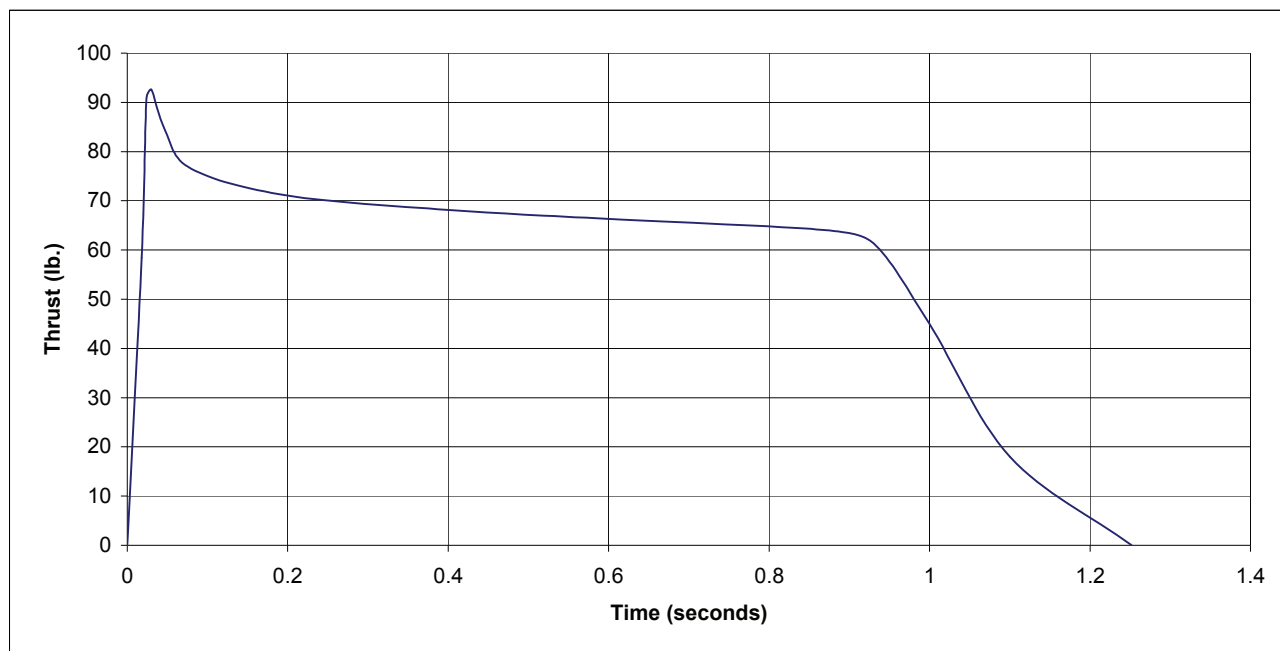
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	232.00 g (8.12 oz)
Propellant Weight	104.30 g (3.65 oz)
Burnout Weight	119.00 g (4.17 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	229.30 Ns (51.59 lb/s)
Maximum Thrust	363.00 N (81.67 lb)
Avg Thrust	254.30 N (57.22 lb)
ISP	224.14 s
Burntime	0.90 s

29.00 x 231.00 mm (1.14 x 9.09 in)

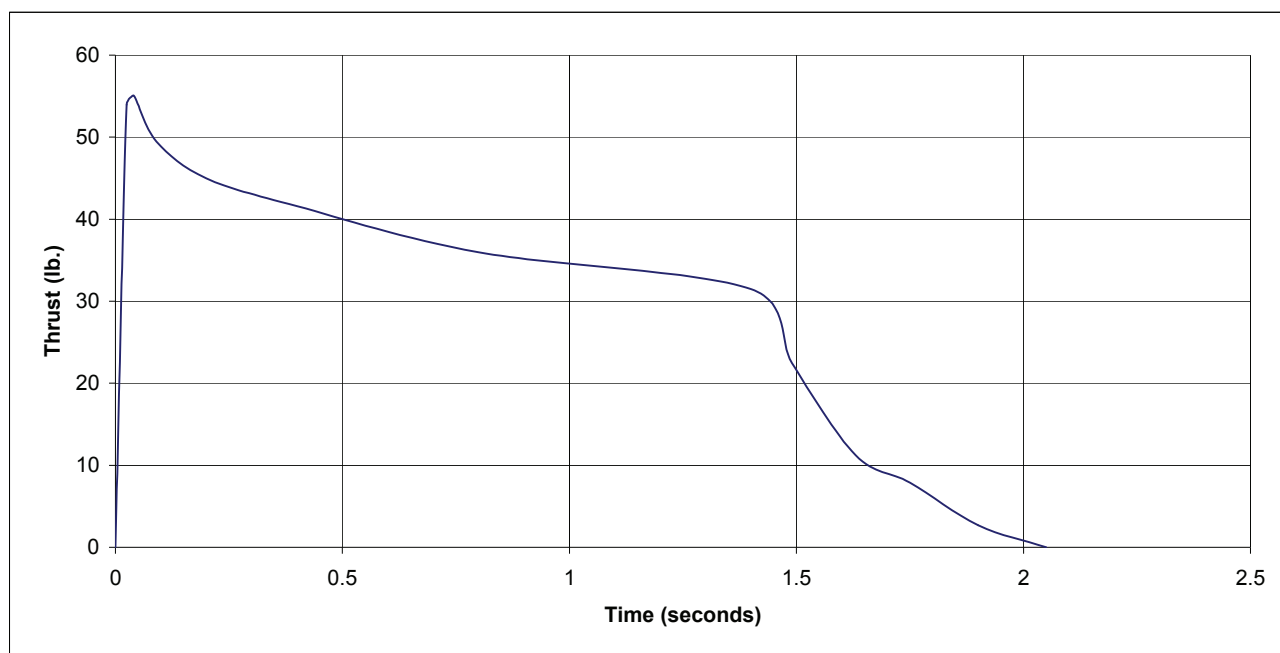
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	277.00 g (9.70 oz)
Propellant Weight	128.50 g (4.50 oz)
Burnout Weight	138.00 g (4.83 oz)
Delays Tested	2, 4, 6, 8, 11 s, adjustable

Motor Dimensions mm

Total Impulse	268.00 Ns (60.30 lb/s)
Maximum Thrust	247.80 N (55.76 lb)
Avg Thrust	141.80 N (31.91 lb)
ISP	212.65 s
Burntime	1.89 s

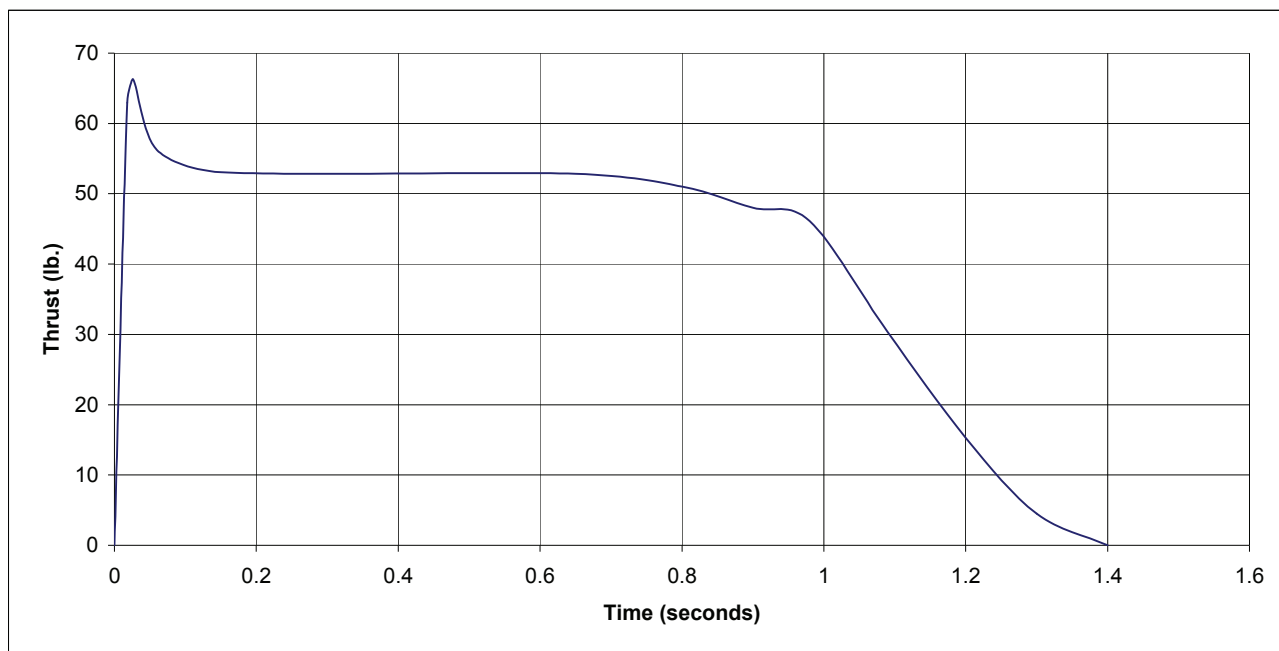
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	274.00 g (9.59 oz)
Propellant Weight	127.90 g (4.48 oz)
Burnout Weight	138.00 g (4.83 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

	29.00 x 276.00 mm (1.14 x 10.87 in)
Total Impulse	260.80 Ns (58.68 lb/s)
Maximum Thrust	303.20 N (68.22 lb)
Avg Thrust	201.70 N (45.38 lb)
ISP	207.94 s
Burntime	1.29 s

Notes**Representative Thrust Curve**

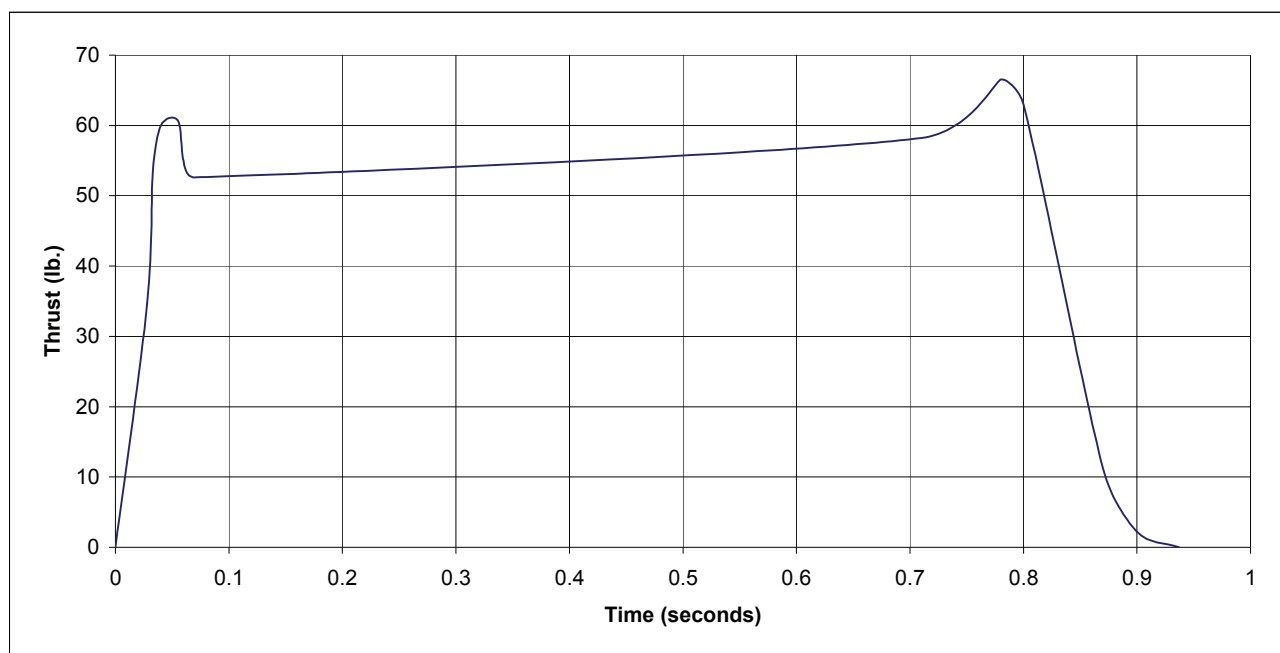
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	294.00 g (10.29 oz)
Propellant Weight	147.60 g (5.17 oz)
Burnout Weight	143.00 g (5.01 oz)
Delays Tested	4, 6, 8, 10, 13 s, adjustable

Motor Dimensions mm

Total Impulse	206.20 Ns (46.39 lb/s)
Maximum Thrust	295.90 N (66.58 lb)
Avg Thrust	237.20 N (53.37 lb)
ISP	142.46 s
Burntime	0.88 s

29.00 x 276.00 mm (1.14 x 10.87 in)

Notes**Representative Thrust Curve**

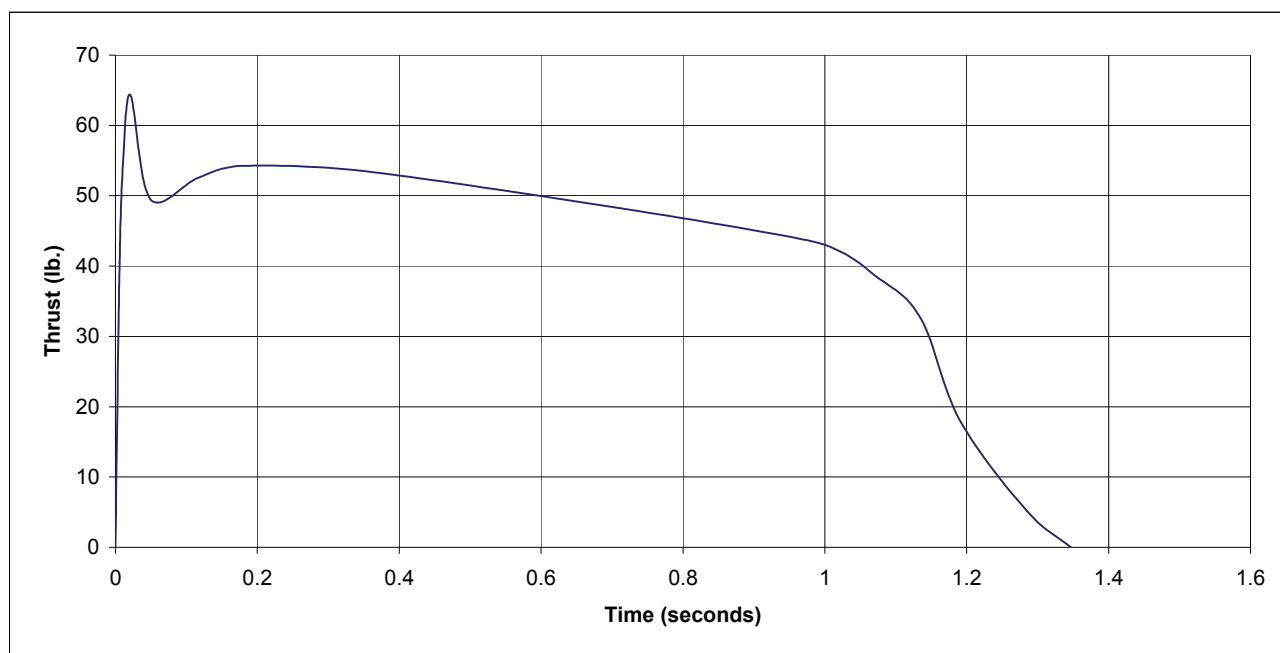
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	284.0 g
Propellant Weight	136.4 g
Burnout Weight	139 g
Delays Tested	5, 7, 9, 11, 14s, adjustable

Motor Dimensions mm

Total Impulse	260.3 Ns (58.5 lb/s)
Maximum Thrust	292.0 N (65.6 lb)
Avg Thrust	194.3 N (43.7 lb)
ISP	194.6 s
Burntime	1.34 s

29.00 x 276.00 mm (1.14 x 10.87 in)

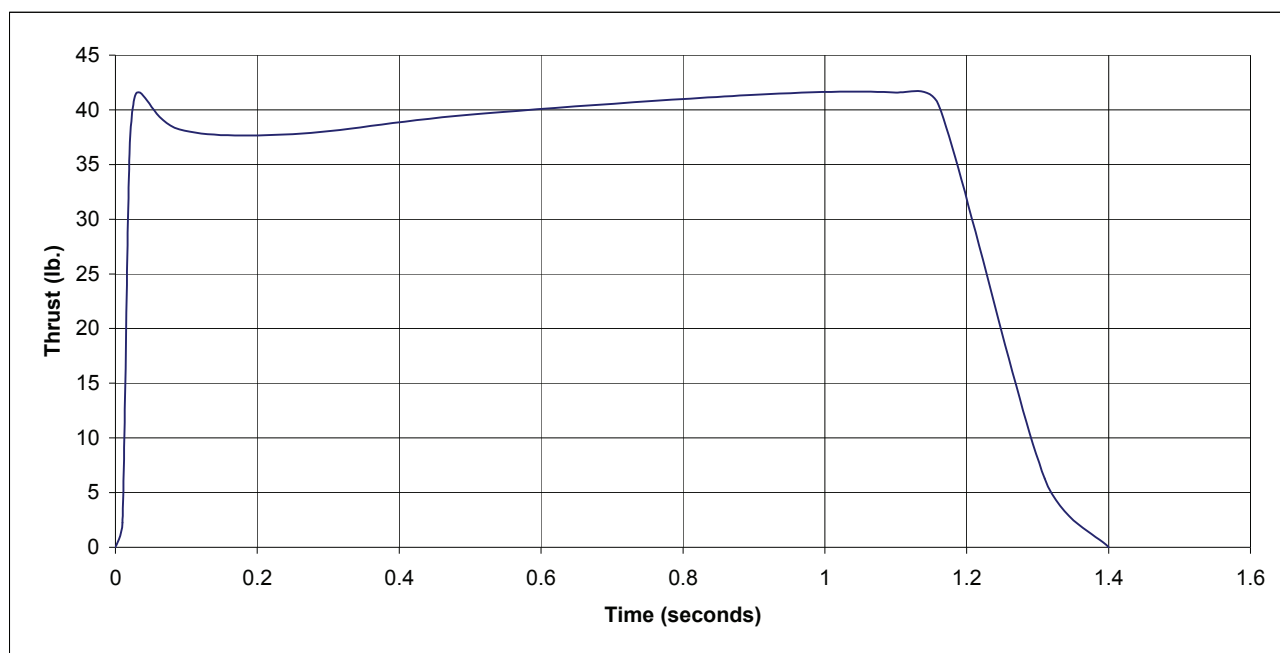
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	272.00 g (9.52 oz)
Propellant Weight	125.00 g (4.38 oz)
Burnout Weight	140.00 g (4.90 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	220.50 Ns (49.61 lb/s)
Maximum Thrust	191.90 N (43.18 lb)
Avg Thrust	159.00 N (35.77 lb)
ISP	179.85 s
Burntime	1.40 s

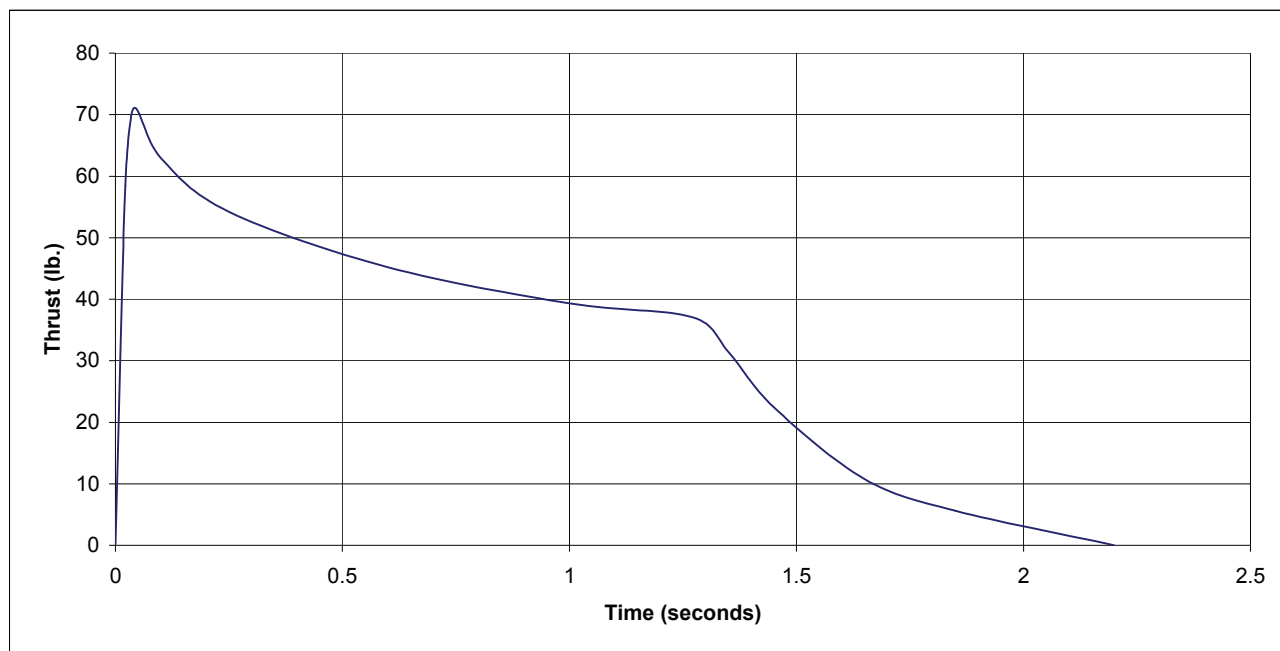
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	319.00 g (11.17 oz)
Propellant Weight	154.20 g (5.40 oz)
Burnout Weight	153.00 g (5.36 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

Total Impulse	311.70 Ns (70.13 lb/s)
Maximum Thrust	334.80 N (75.33 lb)
Avg Thrust	161.50 N (36.34 lb)
ISP	206.10 s
Burntime	1.93 s

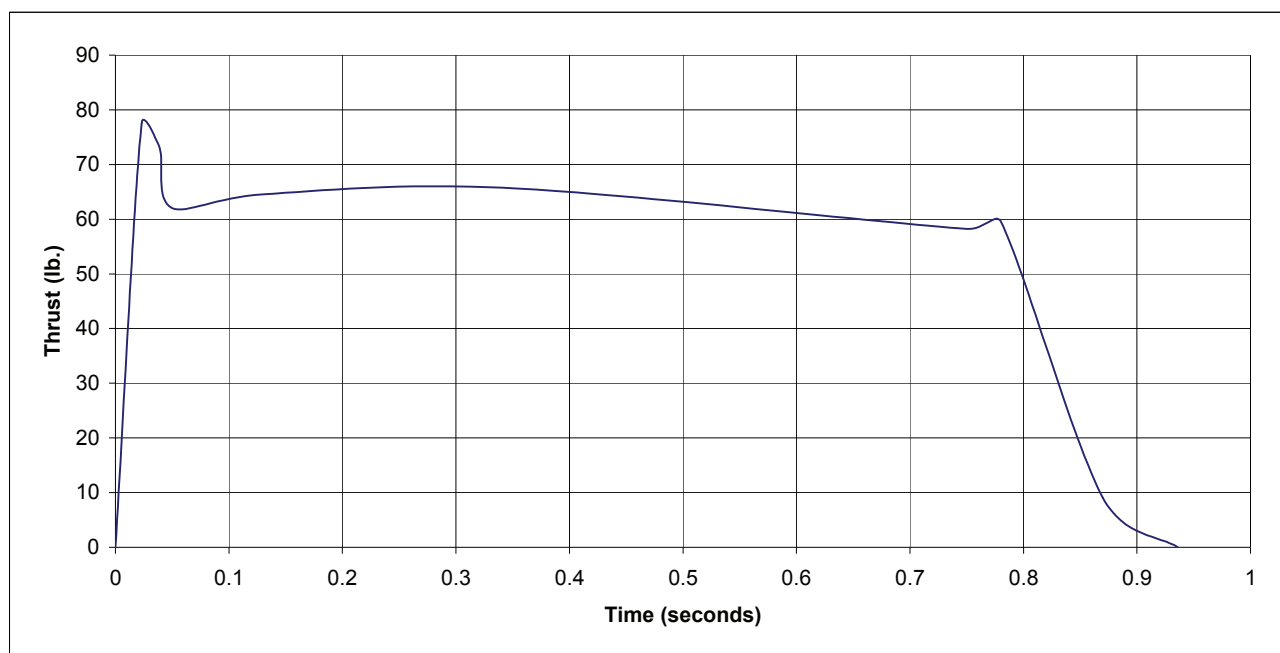
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	318.00 g (11.13 oz)
Propellant Weight	153.40 g (5.37 oz)
Burnout Weight	156.00 g (5.46 oz)
Delays Tested	5, 7, 9, 11, 14s, adjustable

Motor Dimensions mm

Total Impulse	315.40 Ns (70.97 lb/s)
Maximum Thrust	411.10 N (92.50 lb)
Avg Thrust	254.20 N (57.20 lb)
ISP	209.65 s
Burntime	1.24 s

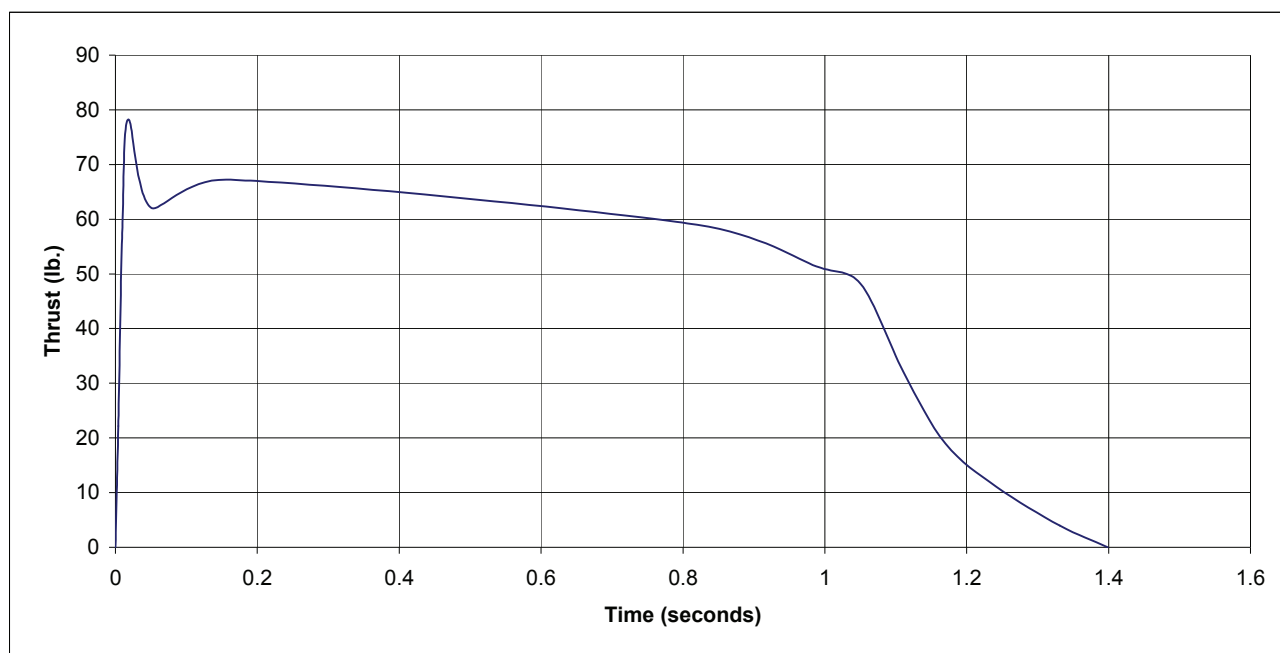
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	327.6 g
Propellant Weight	163.7 g
Burnout Weight	153.8 g
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Motor Dimensions mm	29.00 x 320.00 mm (1.14 x 12.60 in)
Total Impulse	311.5 Ns
Maximum Thrust	354.7 N
Avg Thrust	233.5 N
ISP	194.01 s
Burntime	1.33 s

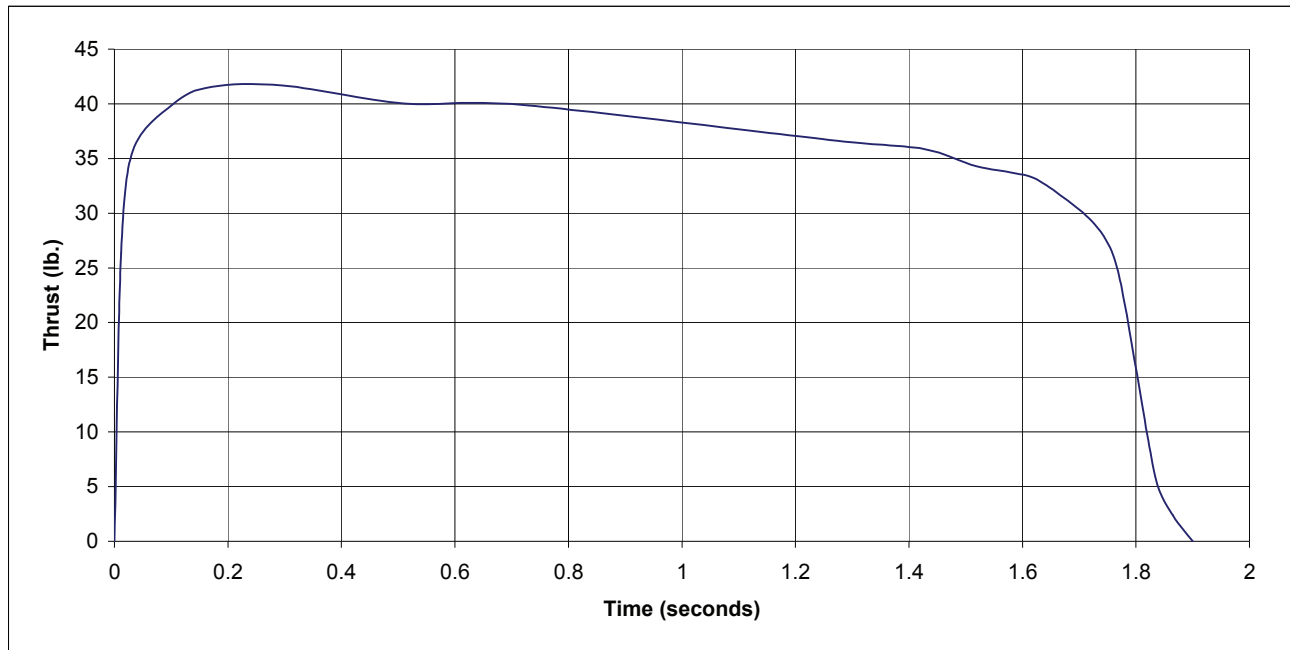
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	342.8 g
Propellant Weight	176.6 g
Burnout Weight	155.4 g
Delays Tested	6, 8, 10, 12, 15 s, adjustable

Motor Dimensions mm

Total Impulse	298.2 Ns (67.0 lbs)
Maximum Thrust	199.7 N (44.9 lb)
Avg Thrust	158.9 N (35.73 lb)
ISP	172.2 s
Burntime	1.88 s

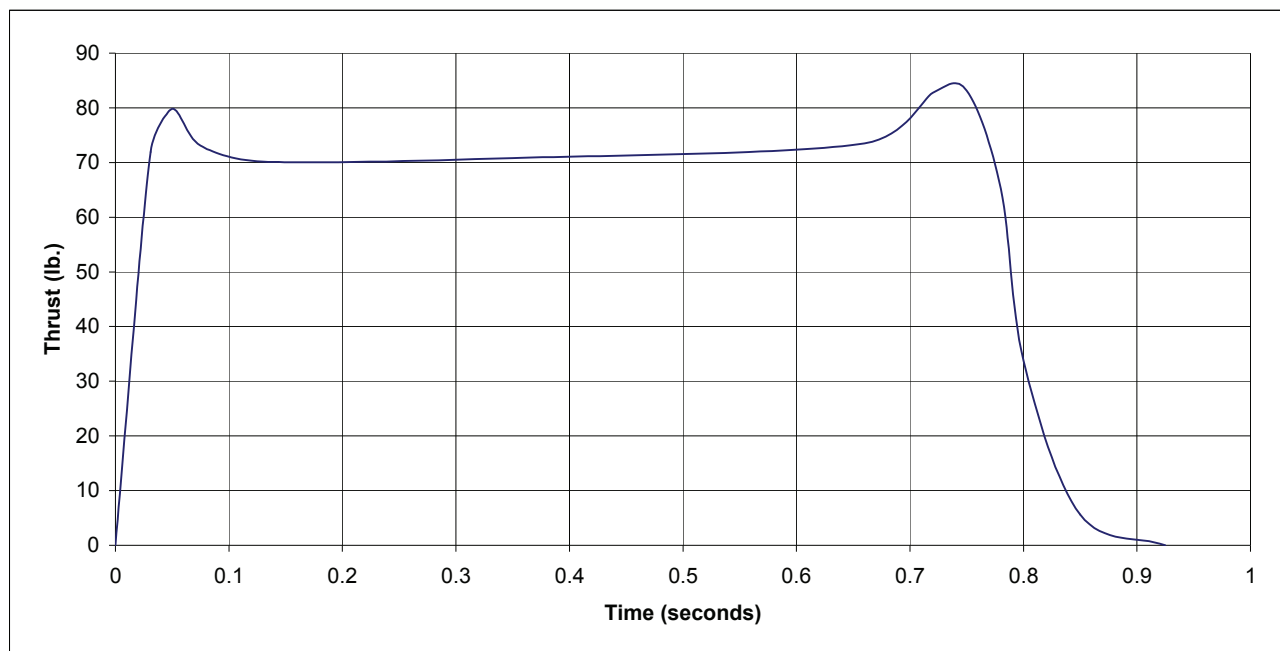
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	342.00 g (11.97 oz)
Propellant Weight	177.10 g (6.20 oz)
Burnout Weight	161.00 g (5.64 oz)
Delays Tested	4, 6, 8, 10, 13s, adjustable

Motor Dimensions mm

Total Impulse	252.70 Ns (56.86 lb/s)
Maximum Thrust	359.50 N (80.89 lb)
Avg Thrust	296.00 N (66.60 lb)
ISP	145.51 s
Burntime	0.85 s

Notes**Representative Thrust Curve**

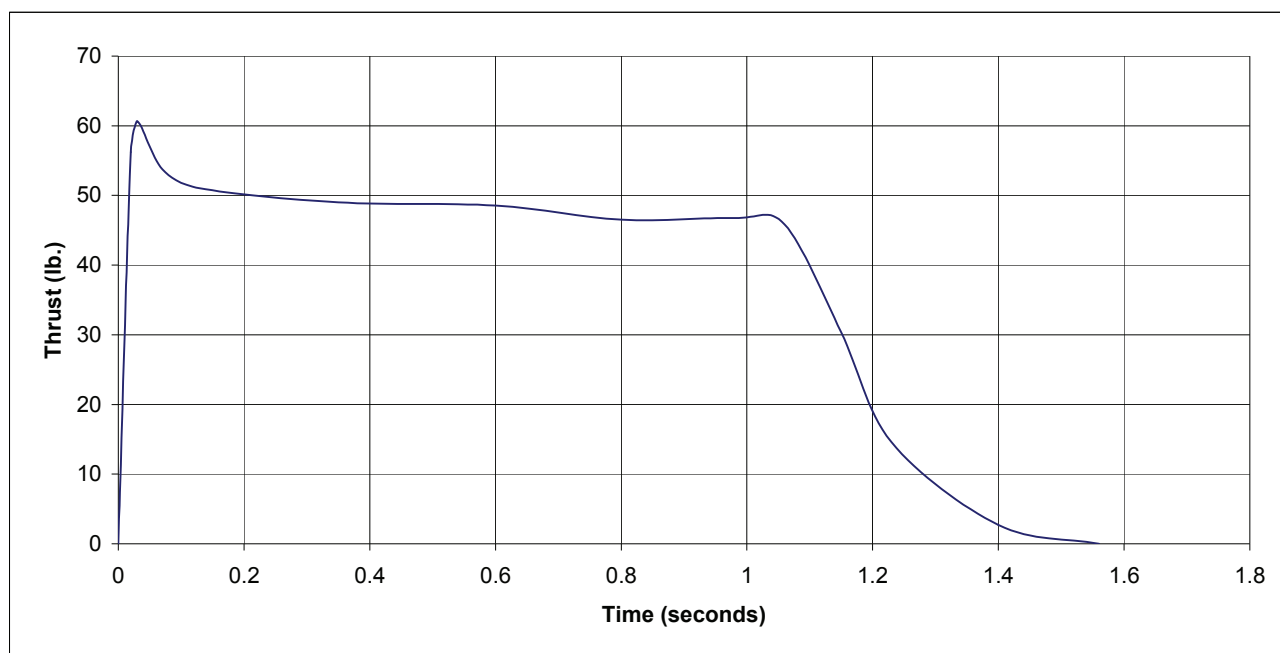
John Wilke's "Not too much to it" (photo Ray Lapanse)

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	314.00 g (10.99 oz)
Propellant Weight	150.00 g (5.25 oz)
Burnout Weight	156.00 g (5.46 oz)
Delays Tested	5, 7, 9, 11, 14s, adjustable

Motor Dimensions mm

Total Impulse	258.00 Ns (58.05 lb/s)
Maximum Thrust	266.10 N (59.87 lb)
Avg Thrust	179.60 N (40.41 lb)
ISP	175.36 s
Burntime	1.44 s

Notes**Representative Thrust Curve**

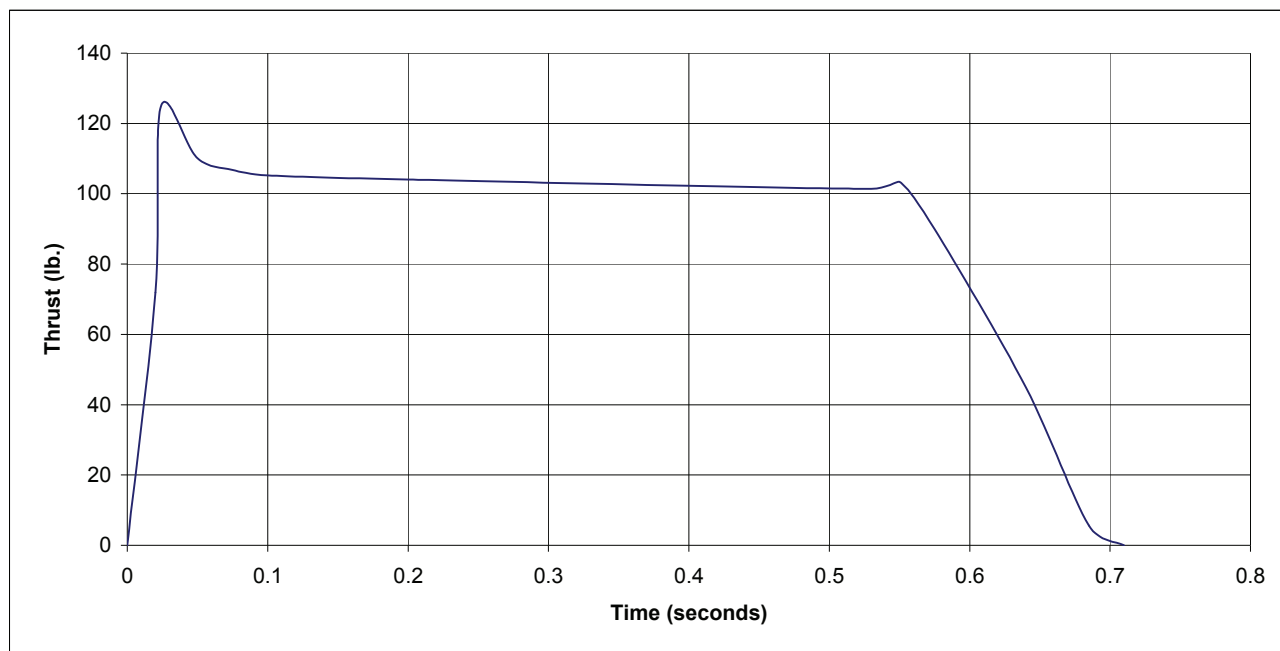
Ben Whitfield's Arcas (photo Ray Lapanse)

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	294.00 g (10.29 oz)
Propellant Weight	132.60 g (4.64 oz)
Burnout Weight	154.00 g (5.39 oz)
Delays Tested	3, 5, 7, 9, 12 s, adjustable

Motor Dimensions mm

	29.00 x 320.00 mm (1.14 x 12.60 in)
Total Impulse	282.20 Ns (63.49 lb/s)
Maximum Thrust	545.80 N (122.80 lb)
Avg Thrust	399.30 N (89.84 lb)
ISP	217.02 s
Burntime	0.71 s

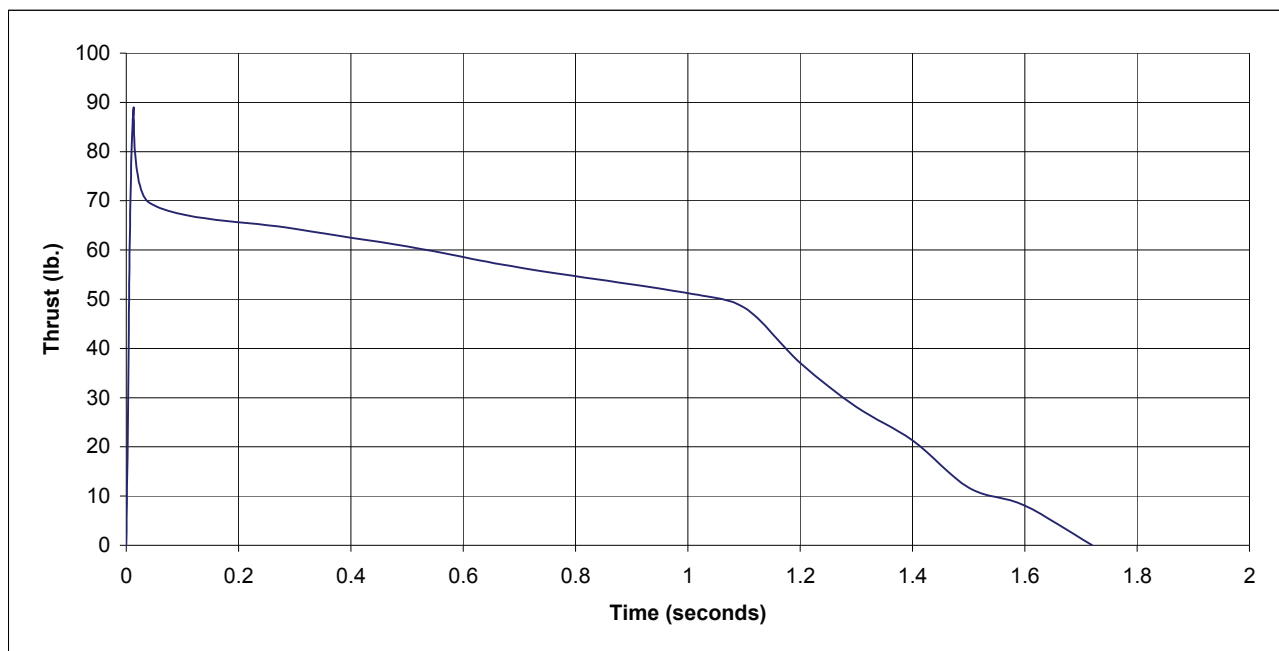
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	349.00 g (12.22 oz)
Propellant Weight	185.40 g (6.49 oz)
Burnout Weight	155.00 g (5.43 oz)
Delays Tested	4, 6, 8, 10, 13s, adjustable

Motor Dimensions mm

Total Impulse	347.70 Ns (78.23 lb/s)
Maximum Thrust	356.80 N (80.28 lb)
Avg Thrust	204.20 N (45.95 lb)
ISP	191.26 s
Burntime	1.70 s

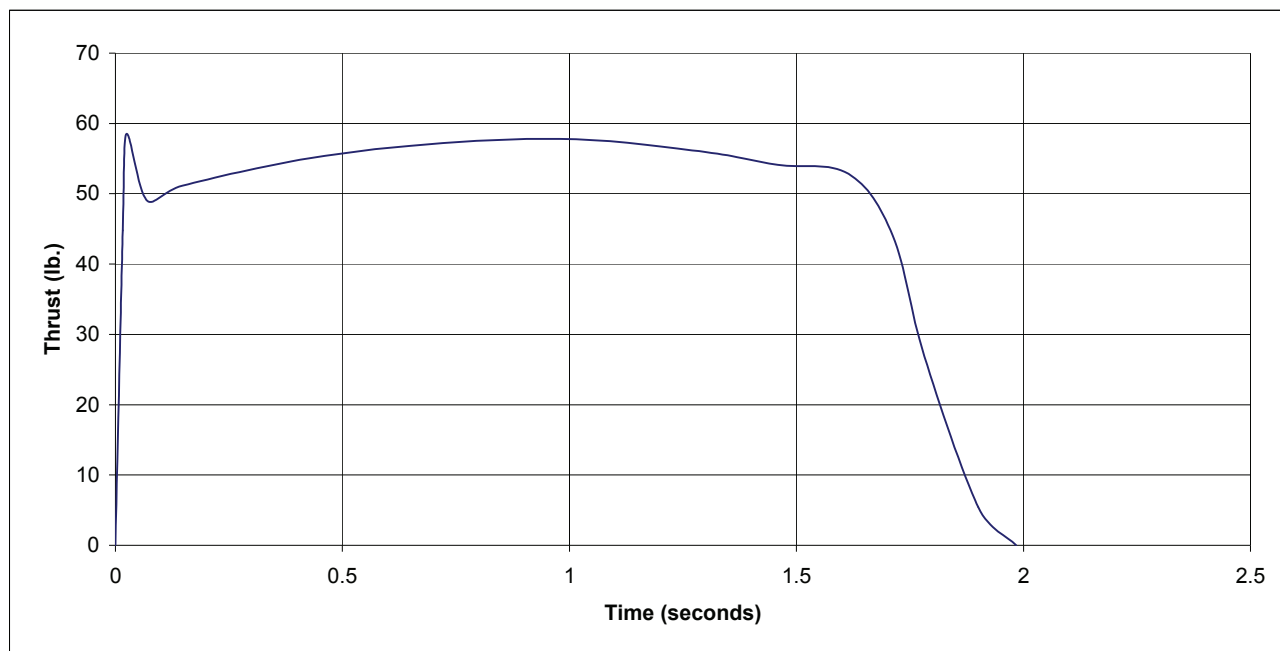
Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	370.0 g
Propellant Weight	182.5 g
Burnout Weight	173.3 g
Delays Tested	6, 8, 10, 12, 15 s, adjustable

Motor Dimensions mm

Total Impulse	381.5 Ns (85.8 lb-s)
Maximum Thrust	454.4 N (102.1 lb)
Avg Thrust	223.8 N (50.3 lb)
ISP	213.12 s
Burntime	1.70 s

Notes**Representative Thrust Curve**

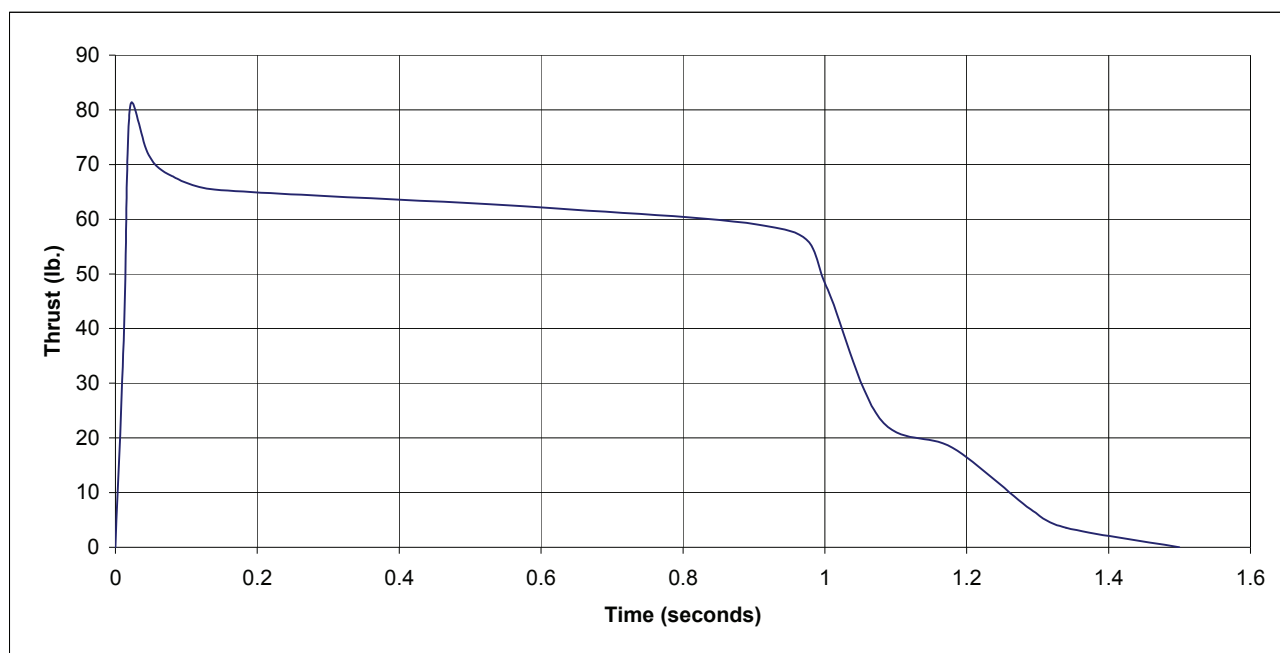
Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	360.00 g (12.60 oz)
Propellant Weight	175.00 g (6.13 oz)
Burnout Weight	176.00 g (6.16 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	305.00 Ns (68.62 lb/s)
Maximum Thrust	362.30 N (81.52 lb)
Avg Thrust	225.60 N (50.76 lb)
ISP	150.49 s
Burntime	1.35 s

29.00 x 365.00 mm (1.14 x 14.37 in)

Notes**Representative Thrust Curve**

Motor Data

Single-Use/Reload/Hybrid	Reloadable
Loaded Weight	391.00 g (13.69 oz)
Propellant Weight	206.70 g (7.23 oz)
Burnout Weight	181.00 g (6.34 oz)
Delays Tested	5, 7, 9, 11, 14 s, adjustable

Motor Dimensions mm

Total Impulse	287.30 Ns (64.64 lb/s)
Maximum Thrust	447.50 N (100.69 lb)
Avg Thrust	340.60 N (76.64 lb)
ISP	167.38 s
Burntime	0.84 s

Notes**Representative Thrust Curve**