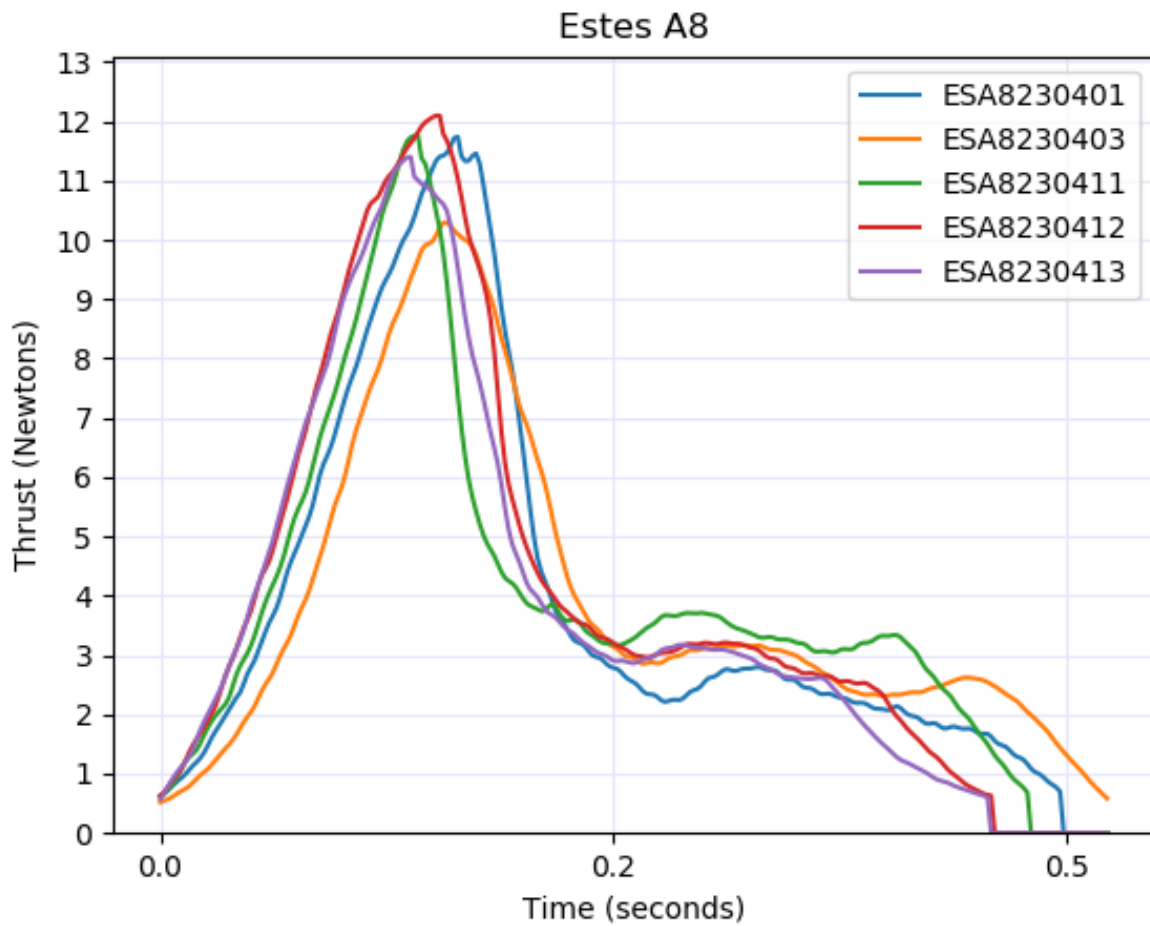


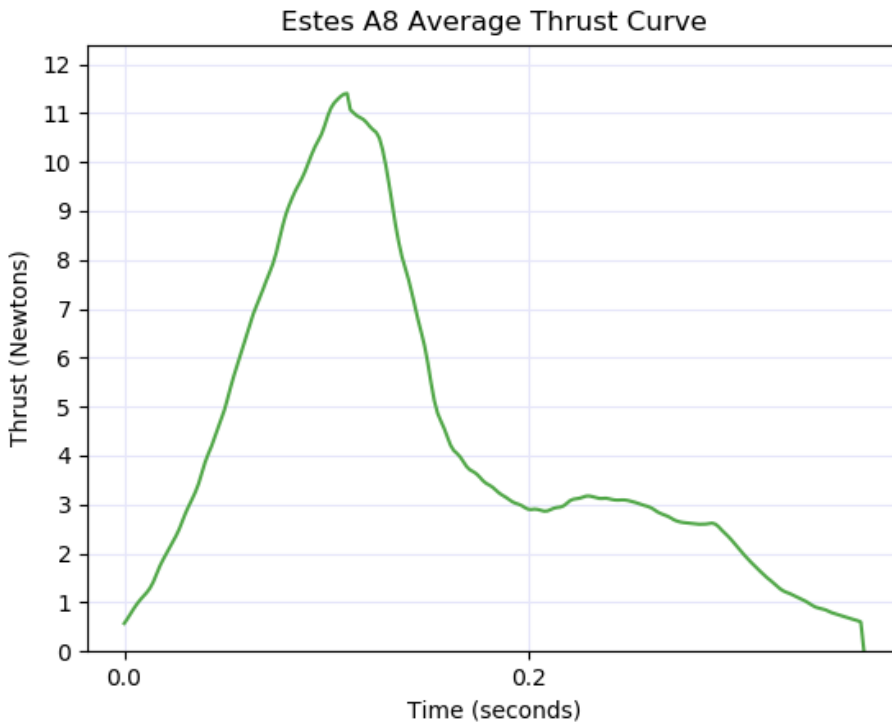
Estes A8 Test Results

Manufacturer	Estes
Motor Designation	A8
Date Tested	2023-04-16
Average Total Impulse	2.03
Average Max Thrust	11.46
Average Burn Time	0.48
Average Thrust	4.20
Result	Measured values are within NFPA tolerances



Test ID	Delay	I-Total	f-Max	f-Avg	t-Burn	t-Delay	m-Init	m-Post	Lot ID
ESA8230401	3	2.00	11.74	4.03	0.50	1.85	12.00	8.00	G200820
ESA8230402	3						14.00	10.00	G200820
ESA8230403	3	2.03	10.29	3.87	0.52	2.78	16.00	10.00	G200820
ESA8230411	5	2.03	11.77	4.24	0.48	4.43	16.00	10.00	I21 1021
ESA8230412	5	2.12	12.10	4.60	0.46	4.29	16.00	10.00	I21 1021
ESA8230413	5	1.96	11.40	4.29	0.46	4.20	16.00	12.00	I21 1021
Average		2.03	11.46	4.20	0.48				
σ		0.05	0.62	0.25	0.02				
$\% \sigma$		2.48	5.44	5.91	5.11				

Delay	Average	σ	$\% \sigma$
3	2.31	0.46	19.91
5	4.30	0.09	2.16



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; Estes A8 RASP .ENG file
; File produced April 26, 2023 by NAR Standards & Testing
;
; Motor Diameter Length Delays Propellant_Mass(kg) Initial_Mass(kg) Manufacturer
A8 18 70 3-5 0.0041 0.0150 Estes
0.000 0.570
0.016 1.295
0.034 2.494
0.044 3.252
0.062 4.929
0.078 6.712
0.092 7.916
0.102 9.107
0.122 10.557
0.128 11.104
0.136 11.387
0.140 11.067
0.158 10.486
0.162 9.921
0.170 8.353
0.186 6.233
0.194 4.868
0.202 4.213
0.212 3.775
0.232 3.238
0.250 2.904
0.262 2.869
0.278 3.108
0.288 3.174
0.314 3.066
0.344 2.644
0.366 2.599
0.390 1.755
0.406 1.279
0.428 0.904
0.454 0.626
0.458 0.000
;

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