

Revised 7/22/06	<b>PLEASE READ THIS VERY IMPORTANT INFORMATION!</b>		
— Data was produced from RockSim simulation software with 500' elevation launch site, 70% humidity, 75 deg. F, 0 mph wind, 0 deg launch rod angle.			
— Aerotech motor propellants are as follows re: their suffix: J is Black Jack, W is White Lightning, T is Blue Thunder, R is Redline.			
— Altitude and Optimal Delay information displayed as "feet,seconds".			
EXAMPLE: AMRAAM-2.1, G75J: "2712,10.48" means 2712 feet peak altitude, 10.48 second optimum delay time			
— No entry means the motor is not recommended, because it is not powerful enough, or will not physically fit the kit, etc.			
— User is responsible for checking CG/CP relationship, speed off launch rod/stability, adequacy of airframe for the motor used, etc.			
— All of these flights were done from a 96" launch rod and achieved 35-40fps minimum by the end of the 96" rod; if you use a shorter rod you must recheck!!!			
— These are estimates/simulations only, <b>NOT GUARANTEES OF SUITABILITY OR PERFORMANCE</b> . This information is to be used at the flyer's risk and as a guideline only. It is up to the flyer to decide if the motor and kit combination is appropriate for their situation. If there are any questions about the motor, contact the motor manufacturer for assistance.			
— It is our recommendation that, in most cases, a delay shown for the motor in question should be "delayed down". A shorter delay should be chosen. This is primarily due to the fact that these simulations are run under "perfect" conditions, and with a rocket weight as PML builds the kit. For example, if the chart shows a 7.1 second delay as optimum and the motor offers a 5 and 7 second delay, you might wish to choose the 5-second delay. In our experience, simulations tend to overestimate the "real-world" delay by about 10-15%. Your rocket may weigh more than the one used in the simulation, as build techniques vary and we tend to "build light". Also, actual flight conditions such as winds, temperature and humidity differences, and especially motor performance in the real world (as opposed to the "perfect" motor used by RockSim) can and WILL cause differences in your actual flight from these predictions. Remember, this information is a GUIDE, not a GOSPEL. The flyer must use their own judgement and experience, and/or the assistance of other local fliers known to have experience, whenever flying a rocket of any kind.			
— <b>One thing that rocketeers seem to forget is that if a certain motor doesn't have a delay available that seems right, you can choose a different motor that has a delay available that's closer. There are many, many motors available, and if one combination doesn't work, don't fret over how to change the delay, pick another motor!</b>			
1234, 56.78	Yellow means this motor/rocket combination requires modifications (strengthening). This motor is not recommended for the stock kit. Consult the <i>Kit Strengthening</i> section of our Airframes FAQ for details on what to do to strengthen the kit.		
1234, 56.78	<b>Bold type</b> means this kit requires modifications to fit the super-long motor (usually the use of an Extended Kwik Switch and/or additional airframe length)		
1234, 56.78	Yellow & <b>bold type</b> means this motor not only requires strengthening modifications but also requires special modifications to fit the super-long motor.		
1234, 56.78	Blue means this motor/rocket combination requires absolutely top-notch construction to fly successfully. The stock kit can fly on this motor, but the following items <b>MUST</b> be done, and done properly, to ensure a solid and strong rocket: — Instructions must be followed to the letter — The directions about sanding all parts to be bonded are critical. We cannot overemphasize how much this adds to strength. — Good, thick, quality epoxy fillets, especially on the fin to motor mount joint and the fin to airframe ID joint. — We <b>STRONGLY</b> recommend the use of our Two-Part Adhesive Foam in the fin section; see the Adhesives website page — Pressure relief holes should be added to the kit as described in our FAQ. — Payload sections and nosecones should be very snug fits. "Sloppy" fits are rocket-killers under high stresses. — A rocket that has been repaired should NEVER be flown on this motor combination. Only "original-strength" rockets should be used.		
1234, 56.78	Blue & <b>bold type</b> means this motor not only requires the build techniques above but also requires special modifications to fit the super-long motor.		

Cesaroni 38mm	G79SS	133G69	H143SS	244H153	384I205	I212SS	512I285	I287SS	I350SS	I540WT	J285	J330	J400SS
1/4-Scale Patriot, 38			1900,9.08	2014,9.19	3009,10.84	2865,10.83	3836,11.81	3696,11.98	4335,12.80	4571,13.11	4667,12.49	5186,12.97	4857,12.98
AGM256 Pit Bull, 38	1608,10.15	1701,10.44	3216,13.20	3489,13.48	4831,15.13	4585,14.15	5650,15.83	5551,15.77	6037,16.20	5895,15.71	6369,15.63	6810,16.96	6403,16.56
AMRAAM-3, 38KS		696,5.40	1870,9.20	2060,9.54	3196,11.57	2946,11.29	4179,12.80	3889,12.66	4611,13.61	4950,14.06	5159,13.68	5794,14.30	5284,14.01
AMRAAM-4, 38KS			1012,6.74	1127,7.05	1985,9.25	1808,8.95	2729,10.54	2528,10.39	3085,11.32	3359,11.87	3468,11.42	4005,12.08	3650,11.91
AMRAAM-4 w/CPR3k,38KS					1338,7.80	1207,7.49	2093,9.64	1899,9.37	2474,10.62	2791,11.42	2839,10.89	3419,11.83	3093,11.62
Andromeda, ADPTR-54/38				775,5.88	1521,8.35	1370,8.01	2349,10.23	2136,9.96	2761,11.23	3125,12.08	3179,11.55	3830,12.55	3462,12.30
Ariel, 38KS		751,5.65	2026,9.65	2228,10.00	3501,12.21	3215,11.89	4614,13.59	4280,13.41	5095,14.45	5483,14.94	5728,14.59	6395,15.22	5840,14.89
Black Brant VB, 38	1470,8.22	1554,8.21	3184,11.61	3420,11.84	4837,13.55	4504,13.36	5820,14.42	5554,14.48	6234,15.26	6178,15.13	6641,14.92	7104,15.31	6420,14.83
Black Brant X, 38KS					693,5.50	1364,7.85	1231,7.53	2118,9.64	1923,9.38	2493,10.59	2807,11.38	2857,10.85	3433,11.77
Bullpuppy, 38	1454,8.17	1537,8.16	3121,11.50	3343,11.71	4695,13.35	4380,13.17	5633,14.18	5384,14.25	6025,14.99	5943,14.85	6407,14.64	6838,15.00	6181,14.56
Callisto, 38	2065,9.69	2185,9.68	4005,12.81	4271,13.00	5730,14.51	5435,14.44	6532,15.11	6326,15.30	6997,16.08	6823,15.77	7334,15.57	7814,15.98	7015,15.37
Cirrus Dart *, 38	3073,11.79	3247,11.82	5665,5.18	6023,15.36	7501,16.66	7205,16.69	8771,17.59	8369,17.72	9502,18.91	9780,18.76	10309,18.55	11383,19.36	10025,18.27
Cygnus, ADPTR-54/38			1288,7.85	1451,8.27	2669,11.19	2411,10.75	3859,13.19	3516,12.83	4407,14.22	4965,15.15	5084,14.68	6017,15.77	5450,15.40
Delta, 38			1730,9.03	1925,9.44	3230,12.02	2944,11.63	4421,13.68	4068,13.41	4937,14.60	5443,15.32	5614,14.90	6456,15.76	5884,15.31
D Tomahawk, 38		668,5.27	1800,9.01	1982,9.34	3094,11.35	2852,11.08	4052,12.57	3772,12.44	4476,13.37	4812,13.84	5008,13.44	5643,14.06	5143,13.78
Eagle, ADPTR-54/38			1060,7.05	1193,7.42	2225,10.13	2006,9.73	3231,11.96	2953,11.67	3711,12.95	4160,13.78	4259,13.31	5035,14.29	4568,13.99
Eclipse A, 38KS			794, 6.00	894,6.31	1684,8.69	1524,8.36	2490,10.35	2284,10.14	2879,11.25	3209,11.98	3283,11.49	3885,12.33	3526,12.13
Eclipse B, (2) 38	853,6.28	900,6.23	2287,10.18	2496,10.51	3836,12.64	3532,12.34	4981,13.95	4631,13.79	5470,14.81	5763,15.15	6071,14.85	6668,15.38	6090,15.03
Endeavour, 38KS			1170,7.29	1301,7.60	2241,9.84	2058,9.56	3066,11.18	2937,11.01	3451,11.98	3761,12.55	3885,12.10	4480,12.80	4079,12.59
Explorer, 38	1487,8.29	1571,8.27	3231,11.73	3471,11.97	4916,13.71	4576,13.51	5914,14.59	5643,14.65	6333,15.44	6282,15.31	6749,15.10	7219,15.50	6527,15.02
Gamma, 38		835,6.04	2310,10.47	2548,10.88	4111,13.52	3748,13.09	5512,15.22	5076,14.93	6090,16.18	6585,16.76	6873,16.45	7637,17.14	6995,16.75
Hydra, 38			1644,8.75	1826,9.13	2989,11.46	2743,11.13	4005,12.87	3708,12.68	4458,13.72	4855,14.31	5020,13.89	5750,14.65	5236,14.35
Intruder, 38			1872,9.22	2061,9.57	3213,11.62	2960,11.34	4213,12.89	3918,12.74	4652,13.70	5002,14.14	5209,13.79	5854,14.41	5340,14.12
Io, 38	2285,10.12	2413,10.12	4312,13.17	4589,13.34	5987,14.70	5718,14.69	6750,15.26	6564,15.49	7247,16.29	7080,15.96	7565,15.73	8120,16.20	7263,15.52
Ion, 38	966,6.75	1020,6.71	2585,10.93	2828,11.30	4360,13.63	4003,13.28	5681,15.09	5265,14.88	6204,15.99	6494,16.30	6842,16.02	7467,16.56	6832,16.17
Little Lunar Express, 38			1898,9.47	2111,9.89	3444,12.38	3147,12.00	4642,13.98	4282,13.72	5156,14.88	5647,15.54	5842,15.14	6633,15.92	6061,15.58
Lunar Express, 38KS							1368,7.89	1230,7.63	1726,9.07	2046,10.10	2026,9.44	2599,10.68	2320,10.43
Matrix, 38			1736,8.79	1903,9.08	2906,10.90	2691,10.67	3750,11.96	3507,11.87	4133,12.71	4408,13.11	4597,12.71	5173,13.27	4711,13.03
Miranda, 38KS		731,5.56	1970,9.49	2169,9.84	3386,11.97	3115,11.67	4445,13.29	4129,13.13	4905,14.13	5274,14.61	5503,14.24	6157,14.56	5620,14.55
MR-1, 38	2238,11.84	2370,12.16	4505,15.55	4918,15.94	6665,17.84	6390,17.58	7644,18.62	7534,18.58	8181,19.12	8158,18.73	8586,13.81	9327,20.13	8761,19.66
Nimbus, ADPTR-54/38			1882,9.44	2093,9.86	3473,12.47	3162,12.06	4728,14.16	4350,13.88	5264,15.09	5798,15.80	5988,15.40	6828,16.24	6236,15.88
Orion, 38			1499,8.37	1670,8.75	2847,11.25	2596,10.88	3916,12.83	3608,12.60	4395,13.73	4839,14.41	4989,13.98	5769,14.83	5247,15.41
Phantom or X-Calibur, 38	1463,8.23	1546,8.22	3253,11.82	3506,12.08	5025,13.94	4665,13.71	6080,14.88	5794,14.92	6511,15.73	6478,15.62	6944,15.41	7430,15.82	6726,15.33
Phobos, 38	1490,8.32	1576,8.31	3294,11.91	3547,12.17	5063,14.01	4703,13.78	6104,14.93	5822,14.98	6534,15.78	6491,15.67	6961,15.46	7443,15.86	6738,15.38
Pterodactyl Jr., 38	984,6.55	1035,6.48	2144,9.25	2286,9.38	3194,10.63	2995,10.53	3918,11.33	3704,11.38	4256,12.05	4272,12.06	4617,11.79	4995,12.11	4507,11.83
Quantum Leap	(SEE TWO-STAGE DATA)												
Quasar, 38KS	1003,6.83	1059,6.79	2555,10.71	2777,11.02	4174,13.08	3853,12.79	5349,14.33	4984,14.19	5820,15.18	6015,15.37	6372,15.10	6926,15.58	6318,15.20
Small Endeavour, 38	1475,8.24	1558,8.22	3175,11.60	3405,11.82	4799,13.51	4471,13.32	5765,14.36	5505,14.42	6174,15.19	6113,15.06	6576,14.85	7034,15.23	6356,14.77
Stratus *, 38	2418,10.69	2563,10.74	4910,14.57	5284,14.87	7080,16.67	6722,16.57	8046,17.40	7800,17.57	8610,18.46	8562,18.23	9043,17.99	9762,18.57	8784,17.82
Sudden Rush, 38KS			1568,8.61	1751,9.01	3006,11.65	2737,11.26	4160,13.35	3821,13.07	4669,14.28	5166,15.03	5321,14.60	6168,15.51	5607,15.16
Tethys, 38KS		644,5.16	1740,8.84	1914,9.16	3005,11.17	2768,10.90	3943,12.38	3669,12.25	4362,13.18	4693,13.64	4879,13.24	5518,13.87	5025,13.60
Thunder & Lightning, 38	(SEE TWO-STAGE DATA)												
X-Calibur (see Phantom)													

\*The Cirrus and Stratus are specialized super-high performance kits and should only be used by experienced high-power fliers.

<b>Cesaroni Pro54</b>	<b>J210</b>	<b>J280SS</b>	<b>J295</b>	<b>J380SS</b>	<b>K445</b>	<b>K530SS</b>	<b>K570</b>	<b>K650SS</b>	<b>K660</b>	<b>L730</b>			
1/2-Scale Patriot, 54			2284,8.75		3416,10.87	2767,10.63	4354,12.13	3509,11.82	5085,12.85	5668,13.41			
AGM600 PitBull, 54	1748,7.59	1358,7.56	2870,9.76	2361,9.88	4064,11.38	3346,11.57	5054,12.60	4123,12.64	5781,13.52	6380,14.03			
AMRAAM-3, 54KS	6584,14.68	5384,14.10	7934,15.16	6792,15.29	8752,12.15	7683,16.00	9393,16.29	8299,16.51	10075,16.66	10801,17.21			
AMRAAM-4, 54KS	4425,12.00	3651,11.78	5915,13.13	4994,13.24	7004,14.10	6059,14.22	7628,14.53	6658,14.72	8056,14.72	8525,15.08			
AMRAAM-4 wCPR3k, 54KS	3595,11.40	2957,11.21	5331,13.41	4430,13.31	6980,15.17	5853,14.95	7948,15.93	6813,15.88	8522,16.22	9037,16.58			
Andromeda, 54	4030,12.15	3318,11.90	5893,14.29	4963,14.12	7724,16.04	6539,15.84	8686,16.76	7501,16.72	9282,17.06	9831,17.45			
Ariel, 54KS	7296,15.71	5957,15.01	8686,16.17	7468,16.27	9588,16.90	8444,17.04	10438,17.49	9198,17.64	11289,17.96	12125,18.57			
Aurora, 54	4610,13.13	3800,12.80	6596,15.37	5637,15.13	8515,17.01	7306,16.86	9427,17.66	8227,17.65	10010,17.94	10573,18.34			
Black Brant X, 54KS	3681,11.42	3034,11.25	5384,13.30	4485,13.24	6959,14.94	5872,14.89	7827,15.59	6752,15.61	8346,15.84	8837,16.19			
Bulldog, 54	2130,8.72	1737,8.69	3632,11.36	2958,11.21	5122,13.50	4201,13.16	6353,14.81	5178,14.39	7263,15.54	7860,15.99			
Cygnus, 54	6788,15.88	5589,15.27	9024,17.46	7692,17.35	10259,18.45	9026,18.47	11143,19.04	9842,19.11	12039,19.53	12905,20.14			
Eagle, 54	5681,14.29	4685,13.85	7786,15.94	6566,15.84	9005,16.96	7866,16.99	9783,17.49	8622,17.60	10357,17.77	11049,18.27			
Eclipse A, 54KS	4207,12.10	3474,11.88	5948,13.75	4983,13.73	7380,15.12	6332,15.10	8157,15.67	7096,15.76	8660,15.90	9163,16.27			
Endeavour, 54KS	4958,12.79	4087,12.48	6592,13.94	5565,14.00	7600,14.79	6610,14.92	8244,15.23	7223,15.42	8699,15.45	9203,15.84			
Lunar Express, 54	2711,10.10	2203,9.92	4506,12.89	3661,12.60	6331,15.25	5183,14.76	7801,16.68	6371,16.13	8644,17.26	9257,17.70			
Miranda, 54KS	6949,15.32	5688,14.69	8410,15.90	7216,16.00	9301,16.62	8185,16.77	10044,17.14	8875,17.32	10838,17.57	11630,18.16			
Nimbus, 54	7901,16.58	6445,15.78	9273,16.97	8004,17.06	10194,17.71	9015,17.84	11199,18.41	9853,18.51	12121,18.91	13017,19.56			
Pterodactyl, 54			2573,9.07	2091,9.10	3591,10.74	2965,10.66	4425,11.72	3637,11.60	5066,12.26	5584,12.71			
Quantum Leap	(SEE TWO-STAGE DATA)												
Quasar, 54KS	8245,16.50	6643,15.57	9220,16.43	7950,16.56	10064,17.13	8917,17.32	11185,17.90	9794,18.02	12105,18.41	13027,19.10			
Sudden Rush, 54KS	6748,15.59	5556,15.01	8722,16.85	7459,16.82	9799,17.71	8633,17.79	10574,18.23	9368,18.37	11382,18.67	12191,19.25			
Tempest, 54HR	6980,15.64	5732,15.02	8694,16.53	7459,16.57	9681,17.32	8531,17.43	10469,17.86	9258,18.01	11299,18.31	12117,18.91			
Tethys, 54KS	6240,14.17	5101,13.64	7643,14.74	6524,14.88	8498,15.44	7439,15.61	9152,15.91	8053,16.11	9802,16.25	10514,16.79			
Ultimate Endeavour **			3017,10.07	2458,10.04	4239,11.96	3490,11.77	5249,13.10	4296,12.85	6027,13.75	6642,14.26			

\*\* Note: Ultimate Endeavour flights shown on single 54mm motor only. RockSim 4.0 does not allow central 54mm surrounded by (3) 38's.