

MASA launch, Blaine, October 24, 1998			Stage 1	Stage 2	Stage 3	Total	Comment
#	Name	Rocket	# Type	# Type	# Type	Impulse	
1	Stefan	Skywinder	1 1/2A6-2			1.25	
2	Russ Durkee	Astrocam	1 C6-7			9	
3	Mike	Stomp Rocket	1 A8-3			2.5	
4	Kent P.	Alpha	1 A8-3			2.5	
5	Alan Estenson	Graduated	1 H128-M			155.9	
6	Mike K.	Bullpup	1 B6-4			5	
7	Kent R.	Fat Boy	1 C6-5			9	
8	Kerry Hodges	Der Red Max	1 C6-5			9	20 year old model from attic
9	Jeremy Booher	Initiator	1 G40-?			120	
10	Kent P.	Big Bertha	1 C6-5			9	
11	Mike Gustafson	Reliant	1 B4-4			5	
12	Francie Kinderman	Wizard	1 C6-7			9	
13	Mike M.	Big Bertha	1 D12-5			17	modified & stretched
14	Stefan	Skywinder	1 C6-5			9	
15	Kent P.	Bullet	1 D12-5			17	
16	Larry Booher	Lance Beta	1 G80-7			120	first flight
17	Mike M.	Phoenix	1 D12-3			17	
18	Mike Gustafson	Mean Machine	1 D12-5			17	
19	Steven G.	Python	1 D12-5			17	
20	Colin Hart	Space Shuttle	1 C6-3			9	
21	Damian K.	V2	1 D24-4			19.6	
22	Mike Kutcke	Saturn V	1 D12-3			17	first flight, 4-H purple ribbon winner, 1984 MN State Fair
23	Kerry Hodges	Odyssey	1 C6-5			9	another 20 year old model
24	Russ D.	Condor	1 G75-M			161.6	
25	Christopher Kvidera	Mustang	1 F39-7			50	
26	Colin Hart	Mach 12	1 C6-5			9	
27	Mike M.	Long Shot	1 C6-5			9	
28	Kent R.	Fat Boy	1 C6-5			9	
29	Mike M.	Tomahawk	1 C6-5			9	
30	Steve G.	Python	1 D12-5			17	
31	Kent P.	Matra	1 D12-5			17	
32	Frankie	Mach 12	1 C6-7			9	
33	Mike Gustafson	AMRAAM	1 C6-5			9	
34	Matthew Hoelmer	Alpha	1 B6-4			5	first flight
35	Christopher Kvidera	Vector	1 B6-4			5	first flight
36	Sean Booher	AMRAAM	2 D12-5			34	
37	Kent P.	iii' Nuke	1 E15-4			40	
38	Ben Hovland	Firebird	1 B4-4			5	
39	Mike M.	Fat Boy	1 C6-3			9	drag race
40	Kent R.	Fat Boy	1 C6-5			9	drag race
41	Frankie	Ionizer	1 C6-7			9	
42	Brian Hammond	Mean Machine	1 D12-5			17	modified
43	Colin Hart	Patriot	4 D12-5			68	partial ignition, loop and crash
44	Mike Gustafson	Mean Machine	1 D12-5			17	
45	Art Gibbens	K+S 2 stage	1 D12-0	1 C6-7		26	
46	Brian H.	Yellow Jacket	1 C6-7			9	
47	Stefan	Mongoose	1 B6-0	1 C6-7		14	
48	Derek	Scratch Payloader	1 A8-3			2.5	first flight
49	Mike M.	Big Bertha	1 C6-5			9	
50	Christopher Kvidera	Initiator	1 G64-7			120	camera payload
51	Steve Handelund	ARV Condor	1 C6-3			9	
52	Ben Hovland	Yellow Jacket	1 B4-4			5	
53	Mike Kutcke	Initiator	1 F20-7			64	"great, noisy"
54	Sean Booher	Banshee	1 B6-4			5	
55	Andrew	Astrocam	1 C6-7			9	
56	Jeff	Sidewinder	1 C6-5			9	
57	Art Gibbens	Green Hornet	1 1/2A3-4t			1.25	
58	Larry Booher	Aura	1 G33-5			100	first flight, "wow!"
59	Kent P.	Mustang	1 E30-7			40	
60	Colin Hart	Silver Comet	1 D12-5			17	
61	Jackson Thatcher	Maxi-Force	3 E30-7			120	partial ignition
62	Mark	Fat Boy	1 C6-5			9	3-way drag race
63	Mark	Fat Boy	1 C6-5			9	3-way drag race
64	Kent R.	Fat Boy	1 C6-5			9	3-way drag race
65	Colin Hart	Mongoose	1 C6-0	1 C6-7		18	
66	Jackson Thatcher	Bullpuppy	1 G80-7			120	2nd flight
67	Brian H.	Thunderhawk	1 C6-7			9	
68	Alan Estenson	Warrior 214	1 G35-7			105	great flight
69	Joe Gonier	Strong Arm	1 F50-4			80	first flight
70	Christopher Kvidera	Stomp Rocket	1 A8-3			2.5	
71	Art Gibbens	Scratch Built	1 A3-4t			2.5	
72	Stefan	Skywinder	1 C6-5			9	
73	Andrew	Astrocam	1 C6-7			9	
74	Steve G.	Stong Arm	1 G40-10			120	
75	Colin	Silver Comet	1 D12-5			17	
76	Mike M.	Long Shot	1 D12-0	1 B6-4		22	
77	Jeff	Sidewinder	1 C6-5			9	
78	Alan Estenson	What Was I Thinking?	1 D12-0	1 C6-3		26	CHAD staged, success!

79	Art Gibbens	Really Fast Balloon	1 D12-7			17	first flight, mylar performer!
80	Christopher Kvidera	Astrocam	1 C6-5			9	
81	Jeremy Booher	Initiator	1 G80-10			120	
82	Kent P.	Mustang	1 E30-7			40	
83	Ben Hovland	Long Shot	1 C6-5			9	first flight
84	Colin	Deltie	1 A8-3			2.5	?
85	Brian H.	Quark	1 1/2A3-2t			1.25	second flight
86	Zach	Skywinder	1 C6-3			9	
87	Michael Maurer	Forte	1 H128-M			155.9	stretched Forte, successful M1 cert!
88	Kent P.	Initiator	1 F25-6			80	
89	Josh Handeland	Wizard	1 C6-7			9	
90	Steve Handeland	Commanche 3	1 D12-0	1 B6-0	1 C6-7	31	no ignition on 2nd stage
91	D.J. Cook	Bailout	1 B6-4			5	maiden flight
92	Jeff	Astrocam	1 C6-7			9	
93	Mike Connor	Caliber ISP	1 G80-4			120	first flight
94	Colin	Silver Comet	1 D12-5			17	
95	Andrew	SRX	1 C6-7			9	unstable!
96	Russ	Cirrus Dart	1 G80-10			120	failure?
97	Paul Cook	Gemini DC	1 A8-3			2.5	1 chute, maiden flight
98	Brian H.	Mean Machine	1 D12-5			17	much shorter now...
99	Kent P.	LOC IV	1 F50-6			80	
100	Ben	Nova Payloader	1 C6-5			9	modified?
101	Christopher Kvidera	Graduator	1 G35-7			105	first flight, very nice
102	D.J. Cook	Sidewinder	1 C6-5			9	first flight
103	Art Gibbens	K+S 2 stage	1 D12-0	1 C6-7		26	
104	Andrew	Intruder	1 1/2A3-2t			1.25	
105	Jeff	Astrocam	1 C6-7			9	
106	Andrew J.	Strong Arm	1 E30-7			40	late ejection
107	Mark Thell	Legacy	1 F50-4			80	maiden flight, 9 second delay?
108	Larry	Aura	1 G64-7			120	wow!
109	Steven Handeland	Fat Boy	1 C6-3			9	3rd flight
110	Zach	Skywinder	1 C6-3			9	
111	Brian H.	Thunderhawk	1 C6-7			9	lawn dart!
112	Mike M.	Stomp Rocket	1 A8-3			2.5	
113	Kent P.	Arreaux	1 F50-9			80	nice!
114	Russ	Boost Glider	1 A10-3t			2.5	
115	Colin H.	Mean Machine	1 D12-5			17	
116	Colin L.	Banshee	1 C6-5			9	first flight
117	Brian H.	Mean Machine	1 D12-5			17	no chute
118	Art Gibbens	Scratch Built	1 C6-0	1 A8-5		11.5	
119	John H.	Patriot	2 D12-5			34	lawn dart!
120	Sam	Astrocam	1 C6-7			9	
121	Mike M.	Long Shot	1 D12-0	1 B6-4		22	separation!
122	Larry Schwartz	Tomcat	1 C5-3			9.5	
123	Alan Estenson	Modified Intruder	1 C6-0			9	
124	D.J. Cook	Sidewinder	1 C6-5			9	
125	Paul Cook	Gemini DC	1 C6-5			9	1 chute
126	Christopher Kvidera	Mustang	1 F39-7			50	
127	Kent P.	Arcas	1 F50-4			80	lawn dart!
128	Alan Estenson	Fat Boy	1 D12-3			17	modified, hard landing
129	Levi B.	Venom	1 B6-2			5	
130	Art Gibbens	Kinda Big Bertha	1 D12-0	1 D12-7		34	
131	Colin C.	MK-109	1 C6-5			9	
132	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 1
133	Colin L.	Airwalker	1 C6-5			9	\$1 bill payload
134	Colin L.	Banshee	1 C6-5			9	
135	Christopher Kvidera	Scratch Built	1 A8-3			2.5	first flight
136	Michael Maurer	Dagger	1 C6-7			9	
137	Ryan Schwartz	Bullpup	1 B6-6			5	
138	Brian H.	Mean Machine	1 D12-5			17	still short...
139	Mike M.	Prowler	1 C6-5			9	
140	Alan Estenson	Der BIG Red Max	1 G75-M			161.6	first flight, 200% upscale
141	Mark Thell	Mercury Atlas	1 E15-4			40	ruptured motor casing, very melty, "Oh my God!"
142	Levi	Hyper X	1 B6-2			5	
143	Ryan Schwartz	MK-109	1 B6-6			5	
144	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 2
145	Larry S.	Tomcat	1 C5-3			9.5	on life 9...
146	Kent P.	Patriot	1 F62-4			80	
147	Art Gibbens	Scratch Built	1 C6-5			9	
148	Christopher Kvidera	Scratch Built	1 C6-5			9	
149	Mike M.	Big Bertha	1 D12-5			17	modified
150	D.J. Cook	Corkscrew	1 C6-3			9	
151	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 3
152	Ryan S.	Tomcat	1 C5-3			9.5	
153	P. Cook	Rampage	1 C6-3			9	
154	Mark Thell	K+S	1 B6-4			5	
155	Art Gibbens	Blackbird	1 C6-7			9	
156	Levi	Rampage	1 B6-2			5	separation, ejected parachute guy
157	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 4
158	Alan Estenson	Warrior 60	1 D12-5			17	stuck chute, core sample!

159	Mike M.	Fat Boy	1 C6-3			9	
160	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 5
161	Ryan S.	Bullpup	1 B6-6			5	
162	Ryan S.	MK-109	1 B6-6			5	
163	Alan Estenson	Python	1 D12-5			17	nice flight
164	Larry Schwartz	Chapperal	1 E18-10			39	lawn dart!
165	D.J. Cook	Sidewinder	1 C6-5			9	
166	Alan Estenson	Birdie	1 A10-3t			2.5	"watch the birdie"
167	Russ	Astrocam	1 C6-7			9	
168	Alan Estenson	Razor	1 B6-4			5	
169	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 6
170	Damian	Saturn 1	1 B4-2			5	scratchbuilt
171	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 7
172	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 8
173	Jacob	Mosquito	1 1/4A3-4t			0.63	flight 9
174	Ryan S.	Tomcat	1 C5-3			9.5	
175	?	Alpha	1 B6-4			5	
176	?	Prowler	1 B6-4			5	
177	?	Reliant	1 A8-3			2.5	
178	Alan Estenson	Der Big Red Max	1 C6-5			9	
179	?	Dink	1 C6-5			9	
180	?	Stomp Rocket	1 B6-4			5	
181	D.J. Cook	Corkscrew	1 C6-5			9	
182	D.J. Cook	Banshee	1 C6-5			9	
183	Mike	Stomp Rocket	1 A8-3			2.5	
184	Russ	Astrocam	1 C6-7			9	
185	Ryan S.	Bullpup	1 B6-6			5	drag race
186	Ryan S.	MK-109	1 B6-6			5	drag race
187	Alan Estenson	K+S Tubular	1 C6-5			9	
188	Jacob	Mosquito	1 1/2A3-4t			1.25	flight 10!!!!
189	Levi	?	1 C6-5			9	
190	Larry Schwartz	Arreaux	1 E18-7			39	ejection just before hitting ground

Motor total by stage: 197 10 1

Total Flights:	190
Total Motors:	208
Total Impulse (N-s):	4703.48 (Large "L" equivalent !)
Average Impulse (N-s):	22.6 (Small "E" equivalent)

Motor Distribution	
1/4 A	1
1/2A	13
A	14
B	27
C	78
D	39
E	10
F	10
G	14
H	2