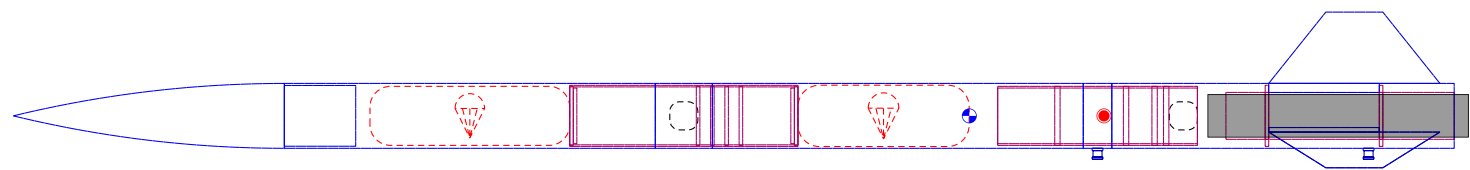


Rocket Design



L1 Fun H without Ext
Stages: 1
Mass (with motor): 1628 g
Stability: 2.08 cal / 9.35 %
CG: 33.506 in
CP: 38.225 in

G67R-6

Altitude	892 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	30.7 s	G67R	15.9 lbf	1.6 s	20.5 lbf	113 Ns	5.41:1	57.6 g	1.5/4.17 in
Time to Apogee	8.07 s								
Optimum Delay	6.42 s								
Velocity off Pad	33.8 ft/s								
Max Velocity	227 ft/s								
Velocity at Deployment	49.2 ft/s								
Landing Velocity	23.2 ft/s								

H123W-10


Altitude	2790 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	72.6 s	H123W	23.4 lbf	2.25 s	34.3 lbf	235 Ns	7.49:1	126 g	1.5/5.98 in
Time to Apogee	13 s								
Optimum Delay	N/A								
Velocity off Pad	44.1 ft/s								
Max Velocity	457 ft/s								
Velocity at Deployment	49.5 ft/s								
Landing Velocity	23.3 ft/s								

I59WN-12

Altitude	6362 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	145 s	I59WN	13.4 lbf	8.15 s	38.6 lbf	487 Ns	3.73:1	272 g	1.5/9.13
Time to Apogee	20.1 s								in
Optimum Delay	N/A								
Velocity off Pad	43.5 ft/s								
Max Velocity	534 ft/s								
Velocity at Deployment	50.7 ft/s								
Landing Velocity	23.9 ft/s								

Parts Detail

Stage: Stage

	Nose cone	Polypropylene, bulk (0.547 oz/in ³)	Ogive	Len: 9.5 in	Mass: 109 g
	Main Tube 13" Always Ready Rocketry BT_2.15_48	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 2.15 in Dia _{out} 2.274 in	Len: 13 in	Mass: 106 g
	Parachute, 28 in., 1.9oz nylon, 10 lines, spill hole	Nylon fabric, ripstop, 1.9 oz actual (0.193 oz/ft ²)	Dia _{out} 28 in	Len: 7 in	Mass: 48.3 g
	Shroud Lines	Nylon Paracord, 275 lb, 2.38 mm dia. (0.038 oz/ft)	Lines: 10	Len: 28 in	
	Switchband 2" Always Ready Rocketry BT_2.15_48	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 2.15 in Dia _{out} 2.274 in	Len: 2 in	Mass: 16.3 g
	AV Bay 2" x 8"	Blue tube (0.751 oz/in ³)	Dia _{in} 2.03 in Dia _{out} 2.14 in	Len: 8 in	Mass: 61.4 g
	AV Lid Fwd Outer	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 2.07 in	Len: 0.125 in	Mass: 5 g
	AV Lid Fwd Inner	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 1.95 in	Len: 0.125 in	Mass: 4.44 g
	Mass Component		Dia _{out} 0.984 in		Mass: 256 g
	AV Plate 1	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 2.07 in	Len: 0.125 in	Mass: 5 g
	AV Plate 2	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 2.07 in	Len: 0.125 in	Mass: 5 g
	AV Plate 3	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 2.07 in	Len: 0.125 in	Mass: 5 g
	AV Plate 4	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 2.07 in	Len: 0.125 in	Mass: 5 g
	AV Lid Aft Inner	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 1.95 in	Len: 0.125 in	Mass: 4.44 g
	AV Lid Aft Outer	Aircraft plywood (LOC) (0.419 oz/in ³)	Dia _{out} 2.07 in	Len: 0.125 in	Mass: 5 g
	Drogue tube 13" Always Ready Rocketry BT_2.15_48	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 2.15 in Dia _{out} 2.274 in	Len: 13 in	Mass: 106 g



Parachute, 15 in., nylon, 6 lines

Top Flight Recovery PAR-15

Nylon fabric, ripstop, 1.7 oz actual
(0.173 oz/ft²)

Dia_{out} 15 in

Len: 6 in

Mass: 9.67 g

Shroud Lines

Top Flight Recovery PAR-15

Nylon Paracord, 110 lb, 1/16 in. dia.
(0.017 oz/ft)

Lines: 6

Len: 15 in



Banded Baffle 1"

Always Ready Rocketry BT_2.15_48

Vulcanized Fiber
(0.667 oz/in³)

Dia_{in} 2.15 in
Dia_{out} 2.274 in

Len: 1 in

Mass: 8.14 g



Baffle 2" x 7"

Blue tube
(0.751 oz/in³)

Dia_{in} 1.949 in
Dia_{out} 2.07 in

Len: 7 in

Mass: 57 g



Bulkhead

Birch
(0.394 oz/in³)

Dia_{out} 2.07 in

Len: 0.187 in

Mass: 7.04 g



Bulkhead

Birch
(0.394 oz/in³)

Dia_{out} 2.07 in

Len: 0.187 in

Mass: 7.04 g



Bulkhead

Birch
(0.394 oz/in³)

Dia_{out} 2.07 in

Len: 0.187 in

Mass: 7.04 g



Bulkhead

Birch
(0.394 oz/in³)

Dia_{out} 2.07 in

Len: 0.187 in

Mass: 7.04 g



Mass Component

Dia_{out} 0.984 in

Mass: 157 g



Fin can 12"

Always Ready Rocketry BT_2.15_48

Vulcanized Fiber
(0.667 oz/in³)

Dia_{in} 2.15 in
Dia_{out} 2.274 in

Len: 12 in

Mass: 97.7 g



Rail Button

Delrin
(0.821 oz/in³)

Len: 0 in

Mass: 1.65 g



Blue Tube 7" MMT

Vulcanized Fiber
(0.667 oz/in³)

Dia_{in} 1.644 in
Dia_{out} 1.644 in

Len: 8 in

Mass: 0 g



Centering ring

Aircraft plywood (LOC)
(0.419 oz/in³)

Dia_{in} 1.64 in
Dia_{out} 2.14 in

Len: 0.125 in

Mass: 2.2 g



Centering ring

Aircraft plywood (LOC)
(0.419 oz/in³)

Dia_{in} 1.64 in
Dia_{out} 2.14 in

Len: 0.125 in

Mass: 2.2 g



Trapezoidal Fin Set (3)

Plywood (birch) Thick: 0.118 in
(0.364 oz/in³)

Mass: 35.6 g