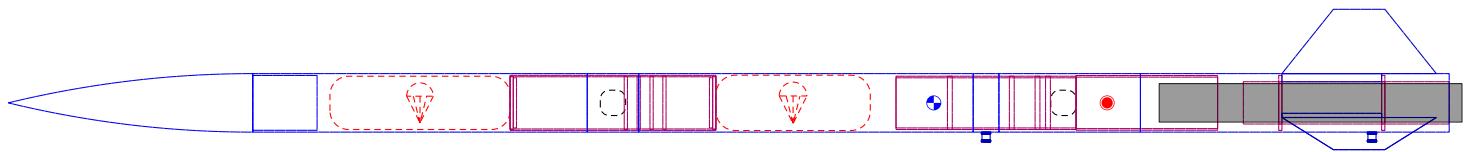


Rocket Design



L1 Fun I with Ext

Stages: 1

Mass (with motor): 1759 g

Stability: 2.96 cal / 12 %

CG: 35.969 in

CP: 42.707 in

I225FJ-12

		Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Altitude	3863 ft	I225FJ	46.4 lbf	1.7 s	62 lbf	350 Ns	12.25:1	242 g	1.5/9.45 in
Flight Time	90.1 s								
Time to Apogee	14.4 s								
Optimum Delay	12.9 s								
Velocity off Pad	51.7 ft/s								
Max Velocity	619 ft/s								
Velocity at Deployment	52.9 ft/s								
Landing Velocity	24.9 ft/s								

I435T-14

		Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Altitude	6336 ft	I435T	106 lbf	1.27 s	158 lbf	596 Ns	27.22:1	287 g	1.5/11.8 in
Flight Time	136 s								
Time to Apogee	17 s								
Optimum Delay	N/A								
Velocity off Pad	91.1 ft/s								
Max Velocity	1046 ft/s								
Velocity at Deployment	52.9 ft/s								
Landing Velocity	24.9 ft/s								

I59WN-12

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	Nylon fabric, ripstop, 1.7 oz actual (0.173 oz/ft ²)	Dia _{out} 15 in	Len: 6 in	Mass: 9.67 g
Shroud Lines	Nylon Paracord, 110 lb, 1/16 in. dia. (0.017 oz/ft)	Lines: 6	Len: 15 in	
Top Flight Recovery PAR-15				
Banded Baffle 1"	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 2.15 in Dia _{out} 2.274 in	Len: 1 in	Mass: 8.14 g
Always Ready Rocketry BT_2.15_48				
Baffle 2" x 7"	Blue tube (0.751 oz/in ³)	Dia _{in} 1.949 in Dia _{out} 2.07 in	Len: 7 in	Mass: 57 g
Bulkhead	Birch (0.394 oz/in ³)	Dia _{out} 2.07 in	Len: 0.187 in	Mass: 7.04 g
Bulkhead	Birch (0.394 oz/in ³)	Dia _{out} 2.07 in	Len: 0.187 in	Mass: 7.04 g
Bulkhead	Birch (0.394 oz/in ³)	Dia _{out} 2.07 in	Len: 0.187 in	Mass: 7.04 g
Bulkhead	Birch (0.394 oz/in ³)	Dia _{out} 2.07 in	Len: 0.187 in	Mass: 7.04 g
kg	Mass Component	Dia _{out} 0.984 in		Mass: 157 g
Extension	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 2.15 in Dia _{out} 2.274 in	Len: 5.5 in	Mass: 44.8 g
Always Ready Rocketry BT_2.15_48				
Tube Coupler	Vulcanized Fiber (0.723 oz/in ³)	Dia _{in} 2 in Dia _{out} 2.124 in	Len: 5.5 in	Mass: 45.2 g
Fin can 12"	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 2.15 in Dia _{out} 2.274 in	Len: 12 in	Mass: 97.7 g
Always Ready Rocketry BT_2.15_48				
Rail Button	Delrin (0.821 oz/in ³)		Len: 0 in	Mass: 1.65 g
Blue Tube 8" MMT	Vulcanized Fiber (0.667 oz/in ³)	Dia _{in} 1.644 in Dia _{out} 1.644 in	Len: 8 in	Mass: 0 g
Centering ring	Aircraft plywood (LOC) (0.419 oz/in ³)	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/in ³)	Dia _{in} 1.64 in Dia _{out} 2.14 in	Len: 0.125 in	Mass: 2.2 g
Trapezoidal Fin Set (3)	Plywood (birch) (0.364 oz/in ³)	Thick: 0.118 in		Mass: 35.6 g