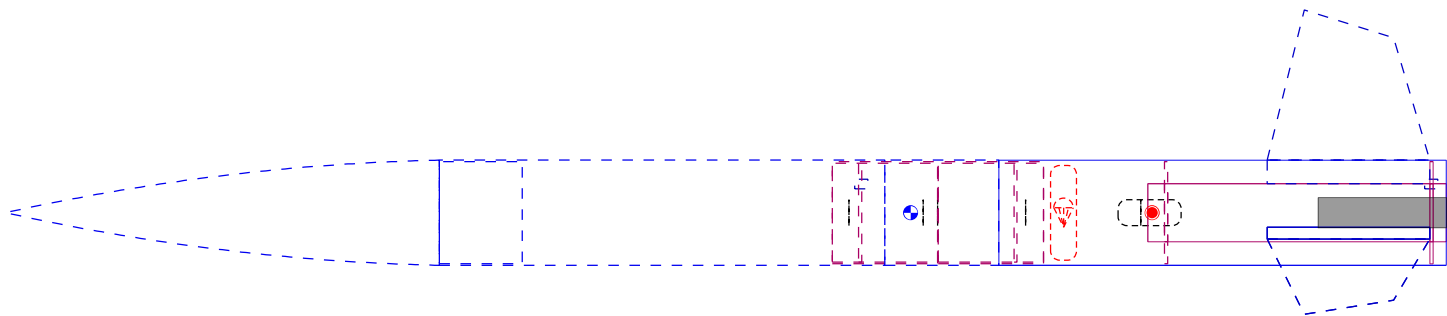


Rocket Design



Cold Froggy Fusion - SBR Fusion LVL 1

Stages: 1

Mass (with motor): 1494 g

Stability: 2.29 cal

CG: 874 mm

CP: 1107 mm

G80-10

Altitude	272 m	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	54 s	G80T	78 N	1.71 s	102 N	133 Ns	5.33:1	62.5 g	29/124 mm
Time to Apogee	7.89 s								
Optimum Delay	6.13 s								
Velocity off Pad	14.7 m/s								
Max Velocity	70.4 m/s								
Velocity at Deployment	6.68 m/s								
Landing Velocity	5.94 m/s								

H135-10

Altitude	582 m	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	105 s	H135W	116 N	1.97 s	160 N	229 Ns	7.49:1	82 g	29/216 mm
Time to Apogee	10.8 s								
Optimum Delay	8.77 s								
Velocity off Pad	12.8 m/s								
Max Velocity	119 m/s								
Velocity at Deployment	14.5 m/s								
Landing Velocity	6.06 m/s								

Parts Detail

Stage

	Nose cone	Polystyrene PS (1.05 g/cm ³)	Parabolic series	Len: 419 mm	Mass: 225 g
	Upper Payload Section Airframe Tube	Paper (1.12 g/cm ³)	Dia _{in} 98.6 mm Dia _{out} 102 mm	Len: 430 mm	Mass: 227 g
	Upper Coupler	Paper (1.12 g/cm ³)	Dia _{in} 95.6 mm Dia _{out} 98.6 mm	Len: 102 mm	Mass: 52.1 g
	Forward AV Bay Bulkhead	Aircraft plywood (Birch) (0.725 g/cm ³)	Dia _{out} 95.6 mm	Len: 3 mm	Mass: 15.6 g
	Eye Bolt		Dia _{out} 25 mm		Mass: 20.4 g
	Forward Rail Button	Polystyrene PS (1.05 g/cm ³)	Dia _{in} 7.19 mm Dia _{out} 9.19 mm	Len: 12.6 mm	Mass: 0.34 g
	Altimeter Bay Airframe Tube	Paper (1.12 g/cm ³)	Dia _{in} 98.6 mm Dia _{out} 102 mm	Len: 110 mm	Mass: 58.2 g
	Lower Coupler	Paper (1.12 g/cm ³)	Dia _{in} 95.6 mm Dia _{out} 98.6 mm	Len: 102 mm	Mass: 52.1 g
	Rear AV Bay Bulkhead	Aircraft plywood (Birch) (0.725 g/cm ³)	Dia _{out} 95.6 mm	Len: 3 mm	Mass: 15.6 g
	Eye Bolt		Dia _{out} 25 mm		Mass: 20.4 g
	RRC3 Altimeter		Dia _{out} 25 mm		Mass: 17 g
	9v Battery		Dia _{out} 25 mm		Mass: 45.4 g
	Booster Airframe	Paper (1.12 g/cm ³)	Dia _{in} 98.6 mm Dia _{out} 102 mm	Len: 432 mm	Mass: 228 g
	Main Parachute	1.9 oz. Ripstop Nylon (SkyAngle) (64.4 g/m ²)	Dia _{out} 1143 mm	Len: 25 mm	Mass: 116 g
	Shroud Lines	1/16 In. braided nylon (1.02 g/m)	Lines: 8	Len: 813 mm	
	Motor Mount Tube	Paper (1.12 g/cm ³)	Dia _{in} 54.2 mm Dia _{out} 56 mm	Len: 288 mm	Mass: 50.3 g
	Rear Centering Ring	Aircraft plywood (Birch) (0.725 g/cm ³)	Dia _{in} 56.1 mm Dia _{out} 98.6 mm	Len: 3 mm	Mass: 11.2 g
	Forward Centering Ring	Aircraft plywood (Birch) (0.725 g/cm ³)	Dia _{in} 56.1 mm Dia _{out} 98.6 mm	Len: 3 mm	Mass: 11.2 g
	Main Fin Set (3)	Aircraft plywood (Birch) (0.725 g/cm ³)	Thick: 3 mm		Mass: 127 g
	Shock cord		Dia _{out} 25 mm		Mass: 51 g



Eye Bolt

Dia_{out} 25 mm

Mass: 20.4 g



Rear Rail Button

Polystyrene PS
(1.05 g/cm³)

Dia_{in} 7.19 mm
Dia_{out} 9.19 mm

Len: 12.6 mm

Mass: 0.34 g

