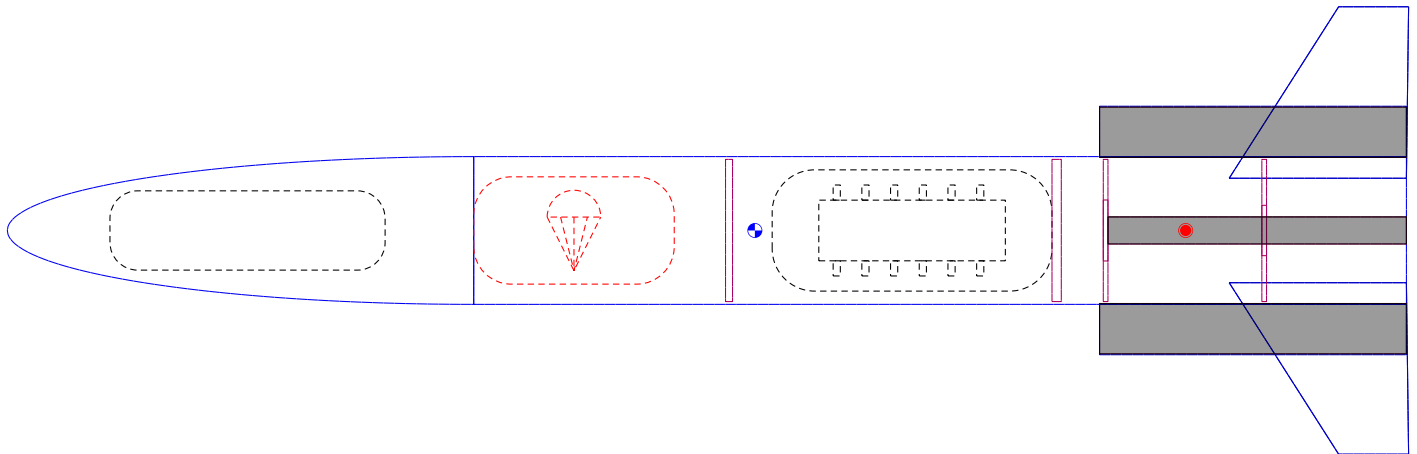


Rocket Design



Rocket

Stages: 1

Mass (with motor): 10194 g

Stability: 2.92 cal

CG: 80.1 cm

CP: 126 cm

2×1266-J760-WT-19A-8,H180-SK-11

Altitude	999 m	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
Flight Time	100 s	H180-SK	186 N	1.39 s	270 N	258 Ns	1.86:1	158 g	29/320 mm
Time to Apogee	12.6 s	1266-J760-WT-19A	758 N	1.67 s	939 N	1267 Ns	7.58:1	576 g	54/329 mm
Optimum Delay	10.7 s	(×2)							
Velocity off Pad	31.8 m/s	Total:				2793 Ns	17.01:1	1310 g	
Max Velocity	227 m/s								
Velocity at Deployment	24.1 m/s								
Landing Velocity	11.2 m/s								

Parts Detail

Sustainer

	Nose cone	Polycarbonate (Lexan) (1.2 g/cm³)	Ellipsoid	Len: 50 cm	Mass: 466 g
	Garlic Bread		Dia _{out} 8.5 cm		Mass: 4000 g
	Body tube	Kraft phenolic (0.95 g/cm³)	Dia _{in} 15.2 cm Dia _{out} 15.8 cm	Len: 100 cm	Mass: 1391 g
	Trapezoidal fin set (4)	Aluminum (2.7 g/cm³)	Thick: 0.3 cm		Mass: 1116 g
	Inner Tube	Cardboard (0.68 g/cm³)	Dia _{in} 2.8 cm Dia _{out} 2.9 cm	Len: 32 cm	Mass: 9.74 g
	Booster Tubes	Cardboard (0.68 g/cm³)	Dia _{in} 5.4 cm Dia _{out} 5.4 cm	Len: 32.9 cm	Mass: 0 g
	Booster Aerodynamics	Cardboard (0.68 g/cm³)		Len: 32.9 cm	Mass: 0 g
	Avionics		Dia _{out} 13 cm		Mass: 300 g
	Bulkhead	Aluminum (2.7 g/cm³)	Dia _{out} 15.2 cm	Len: 0.75 cm	Mass: 150 g
	Bulkhead	Plywood (birch) (0.63 g/cm³)	Dia _{out} 15.2 cm	Len: 1 cm	Mass: 115 g
	Centering ring	Plywood (birch) (0.63 g/cm³)	Dia _{in} 5.4 cm Dia _{out} 15.2 cm	Len: 0.5 cm	Mass: 50.2 g
	Main Chute	Ripstop nylon (67 g/m²)	Dia _{out} 122 cm	Len: 21.5 cm	Mass: 81.5 g
	Shroud Lines	Elastic cord (round 2 mm, 1/16 in) (1.8 g/m)	Lines: 6	Len: 30 cm	
	Engine block	Plywood (birch) (0.63 g/cm³)	Dia _{in} 6.54 cm Dia _{out} 15.2 cm	Len: 0.5 cm	Mass: 46.9 g

