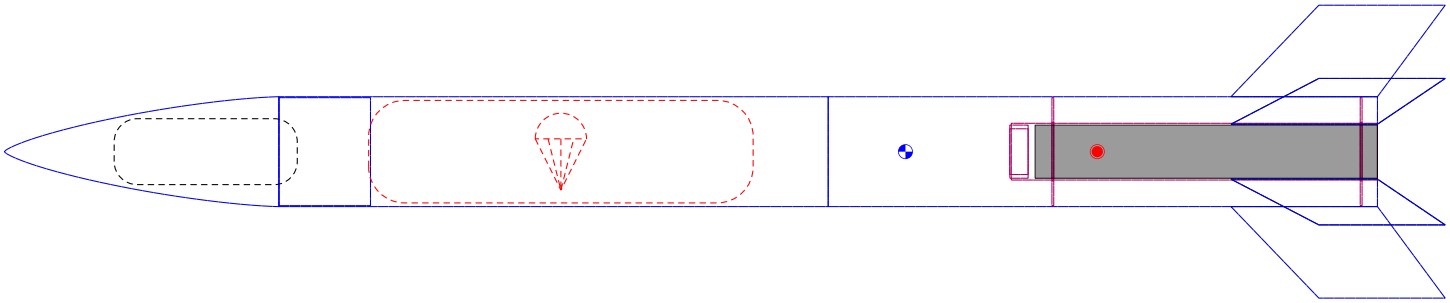
Rocket Design



Rocket

Stages: 1

Mass (with motor): 599 g

Stability: 1.75 cal

CG: 492 mm

CP: 597 mm

G54-RL-9

Altitude	937 m
Flight Time	130 s
Time to Apogee	12.1 s
Optimum Delay	9.08 s
Velocity off Pad	19.3 m/s
Max Velocity	179 m/s
Velocity at Deployment	2.7 m/s
Landing Velocity	7.83 m/s

Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
G54-RL	53.3 N	2.99 s	122 N	160 Ns	9.07:1	96.8 g	29/187 mm

Parts Detail

Sustainer

	Nose cone	PLA (1.24 g/cm³)	Haack series	Len: 150 mm	Mass: 29.4 g
	Unspecified		Dia_{out} 36 mm		Mass: 100 g
	Body tube	PLA (1.24 g/cm³)	Dia_{in} 58 mm Dia_{out} 60 mm	Len: 300 mm	Mass: 69 g
	Parachute LOC/Precision LP-18	[material:Rip stop nylon] (66.8 g/m²)	Dia_{out} 457 mm	Len: 210 mm	Mass: 11 g
	Shroud Lines LOC/Precision LP-18	[material:3/8 in. tubular nylon] (0 g/m)	Lines: 8	Len: 381 mm	
	Body tube	PLA (1.24 g/cm³)	Dia_{in} 58 mm Dia_{out} 60 mm	Len: 300 mm	Mass: 69 g
	Centering ring	PLA (1.24 g/cm³)	Dia_{in} 32 mm Dia_{out} 59 mm	Len: 1 mm	Mass: 2.39 g
	Centering ring	PLA (1.24 g/cm³)	Dia_{in} 32 mm Dia_{out} 59 mm	Len: 1 mm	Mass: 2.39 g
	Inner Tube	Aluminum (2.7 g/cm³)	Dia_{in} 29 mm Dia_{out} 31 mm	Len: 200 mm	Mass: 50.9 g
	Engine block	PLA (1.24 g/cm³)	Dia_{in} 25 mm Dia_{out} 29 mm	Len: 10 mm	Mass: 2.1 g
	Trapezoidal fin set (6)	Cardboard (0.68 g/cm³)	Thick: 5 mm		Mass: 64.6 g