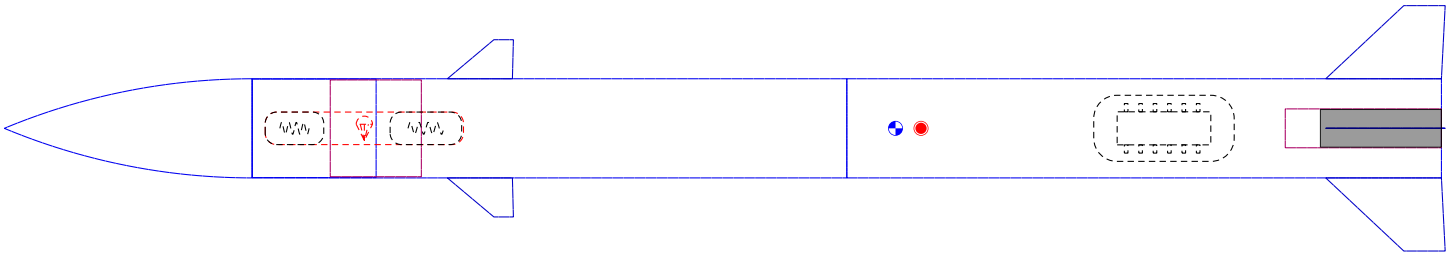
Rocket Design



Rocket

Stages: 1

Mass (with motor): 447 g

Stability: 0.257 cal

CG: 68.5 cm

CP: 70.5 cm

F10-8

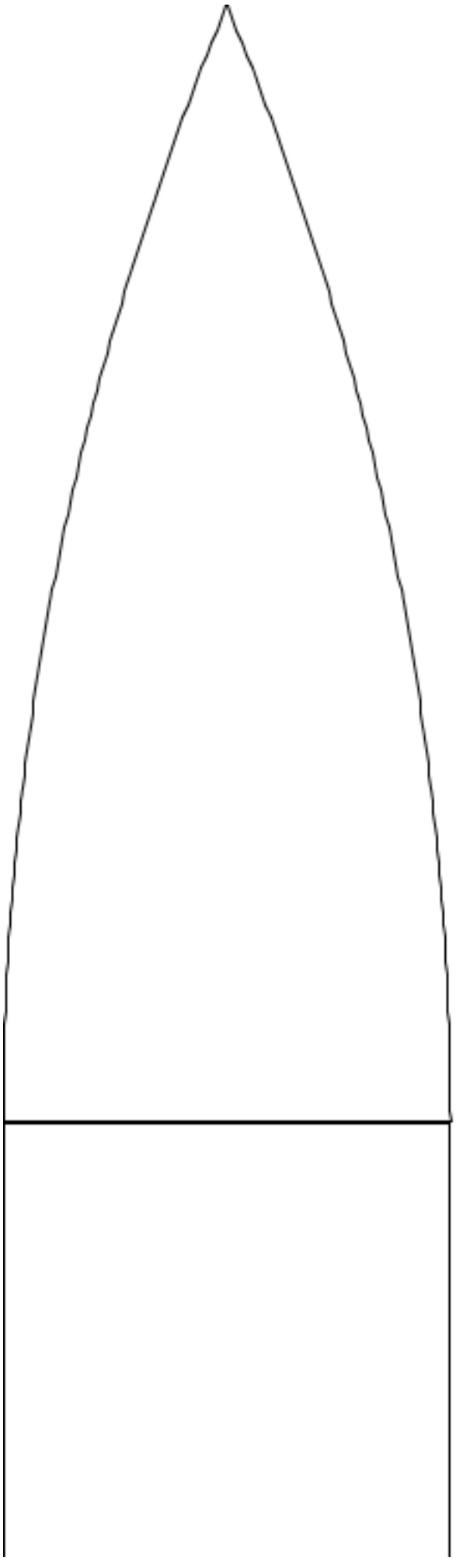
Altitude	434 m
Flight Time	52.4 s
Time to Apogee	11.3 s
Optimum Delay	4.25 s
Velocity off Pad	9.76 m/s
Max Velocity	57.7 m/s
Velocity at Deployment	0.987 m/s
Landing Velocity	10.7 m/s

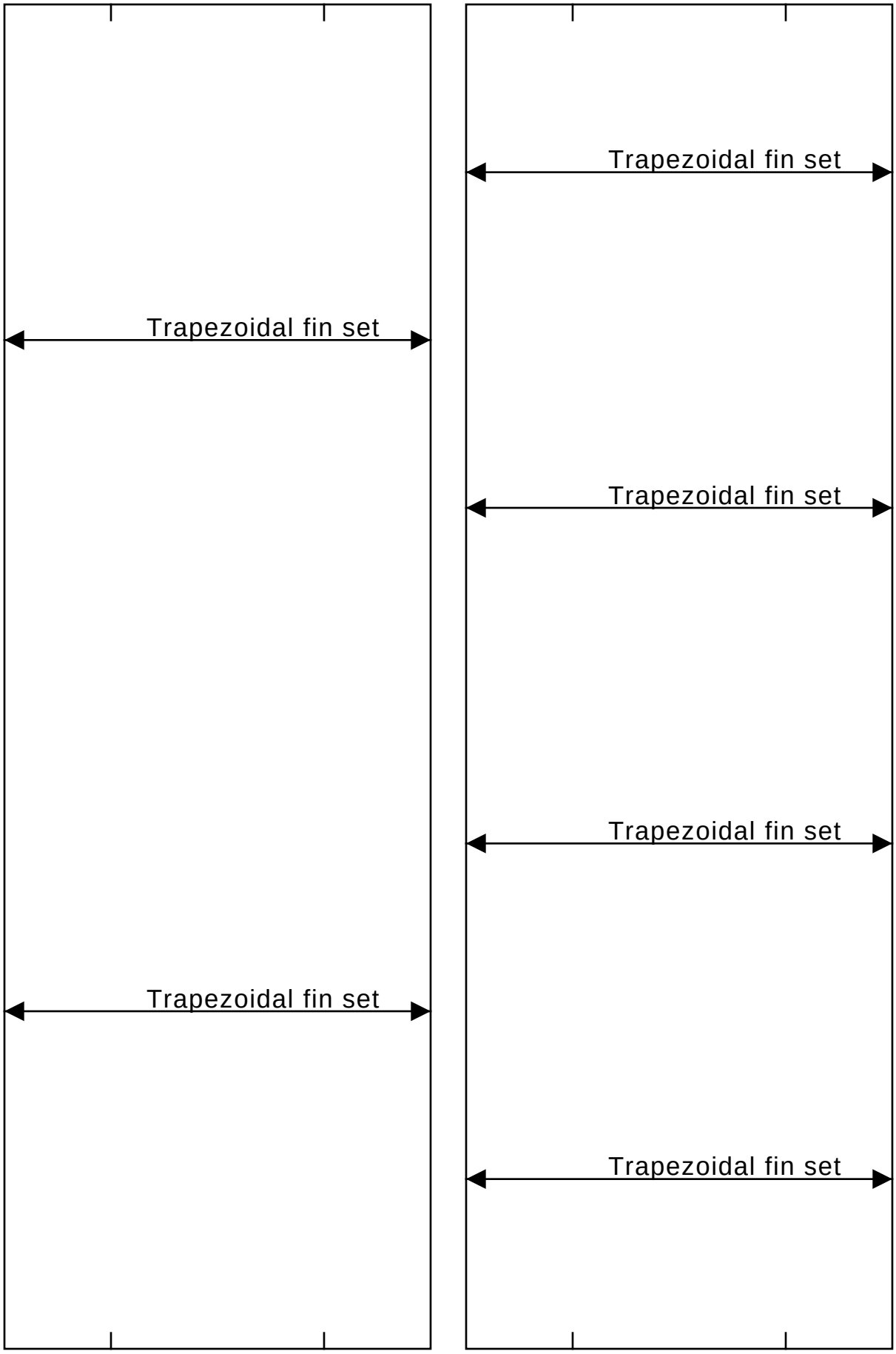
Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
F10	10.9 N	7.02 s	28.2 N	76.3 Ns	2.48:1	40.7 g	29/93 mm

Parts Detail

Sustainer

	Nose cone	[material:[material:polystyrene PS]] (1 g/cm³)	Ogive	Len: 19 cm	Mass: 92.7 g
	Body tube	Cardboard (0.68 g/cm³)	Dia_{in} 7.44 cm Dia_{out} 7.62 cm	Len: 45.7 cm	Mass: 66.2 g
	Tube coupler	Cardboard (0.68 g/cm³)	Dia_{in} 7.44 cm Dia_{out} 7.44 cm	Len: 7 cm	Mass: 0 g
	Parachute	Ripstop nylon (67 g/m²)	Dia_{out} 30 cm	Len: 15.2 cm	Mass: 7.98 g
	Shroud Lines	Elastic cord (round 2 mm, 1/16 in) (1.8 g/m)	Lines: 6	Len: 30 cm	
	Shock cord	Elastic cord (round 2 mm, 1/16 in) (1.8 g/m)		Len: 40 cm	Mass: 0.72 g
	Trapezoidal fin set (2)	Plywood (birch) (0.63 g/cm³)	Thick: 0.3 cm		Mass: 3.69 g
	Body tube	Cardboard (0.68 g/cm³)	Dia_{in} 7.44 cm Dia_{out} 7.62 cm	Len: 45.7 cm	Mass: 66.2 g
	Flight Computer		Dia_{out} 5.08 cm		Mass: 96 g
	Inner Tube	Cardboard (0.68 g/cm³)	Dia_{in} 2.9 cm Dia_{out} 2.99 cm	Len: 12 cm	Mass: 3.4 g
	Trapezoidal fin set (4)	Plywood (birch) (0.63 g/cm³)	Thick: 0.3 cm		Mass: 25.6 g
	Shock cord	Elastic cord (round 2 mm, 1/16 in) (1.8 g/m)		Len: 40 cm	Mass: 0.72 g




Trapezoidal fin set
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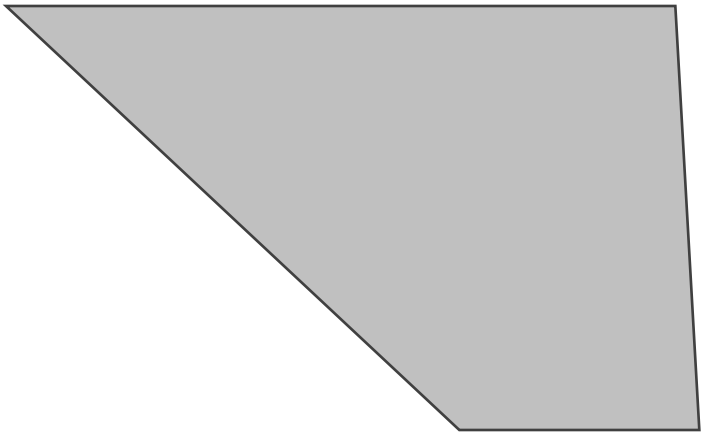

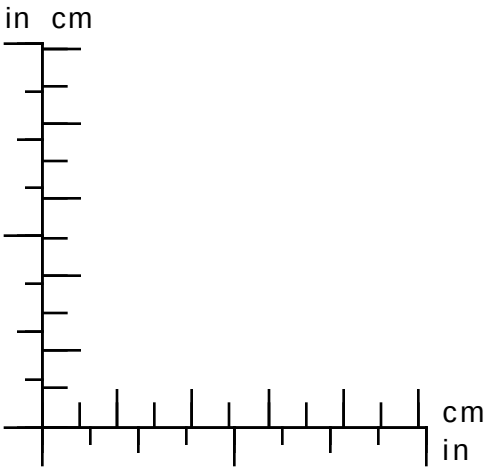
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