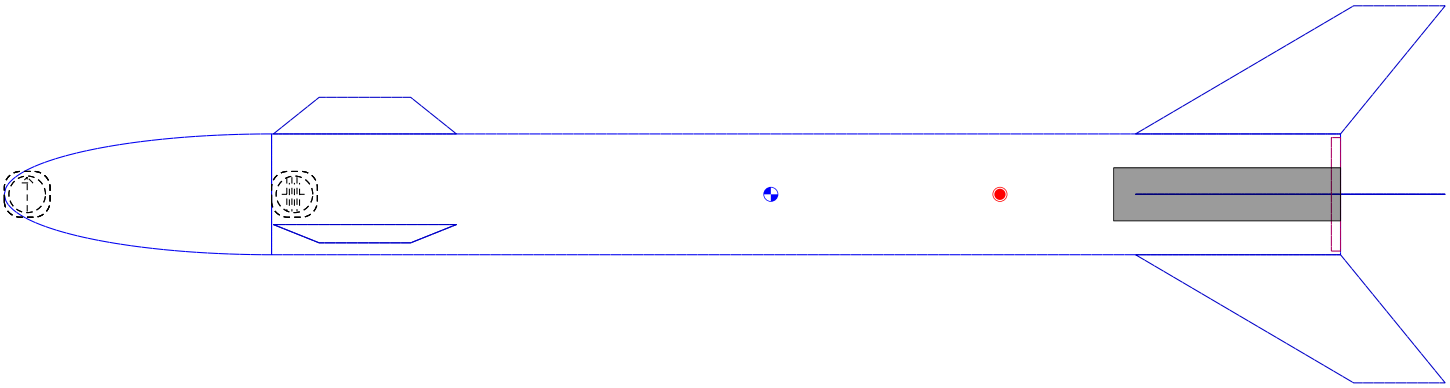
Rocket Design



Rocket

Stages: 1

Mass (with motor): 468 g

Stability: 1.9 cal

CG: 41.9 cm

CP: 54.4 cm

F52-5

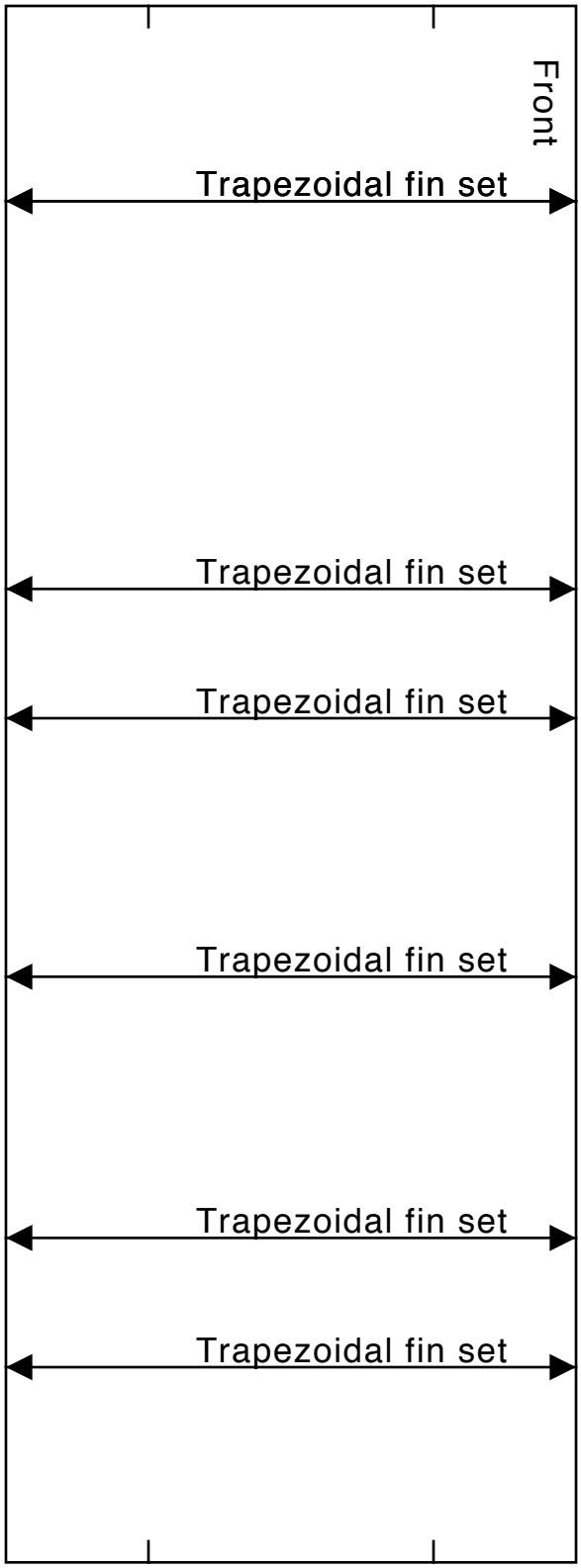
Altitude	412 m
Flight Time	19.7 s
Time to Apogee	8.29 s
Optimum Delay	6.96 s
Velocity off Pad	17.4 m/s
Max Velocity	123 m/s
Velocity at Deployment	N/A
Landing Velocity	58 m/s

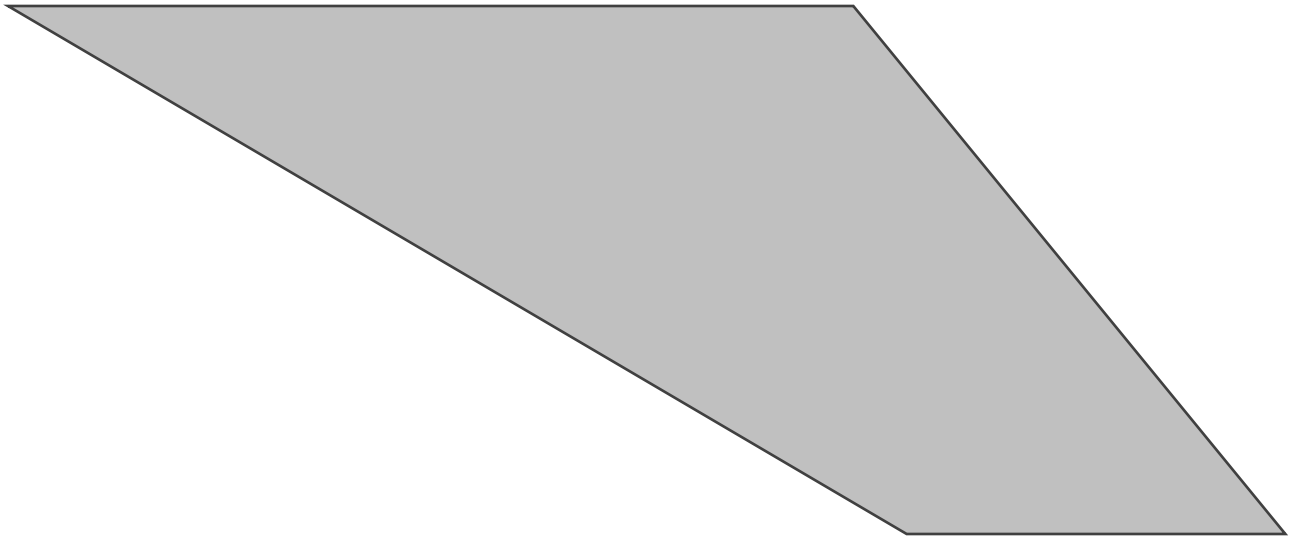
Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
F52	53.6 N	1.36 s	79 N	73 Ns	11.69:1	36.6 g	29/124 mm

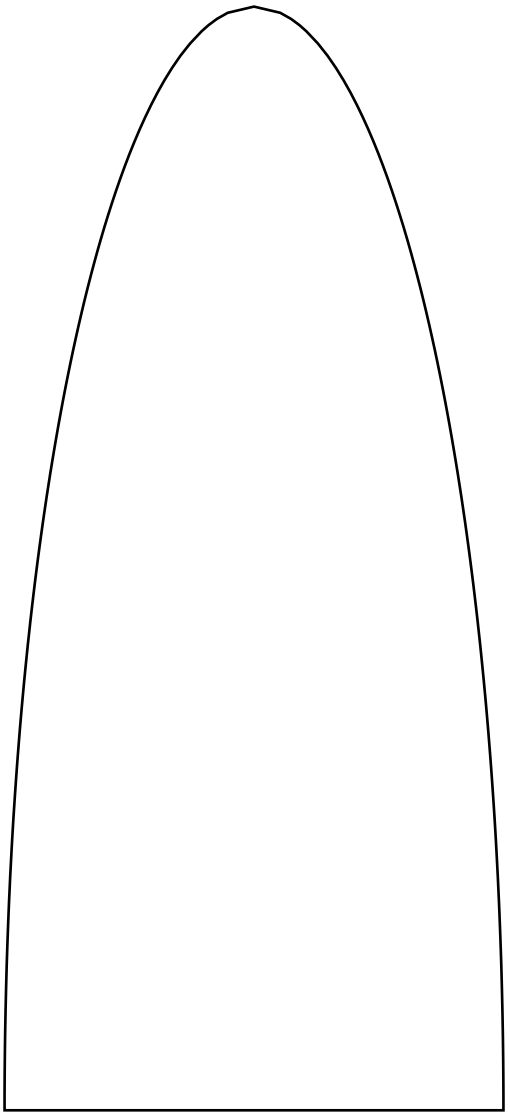
Parts Detail

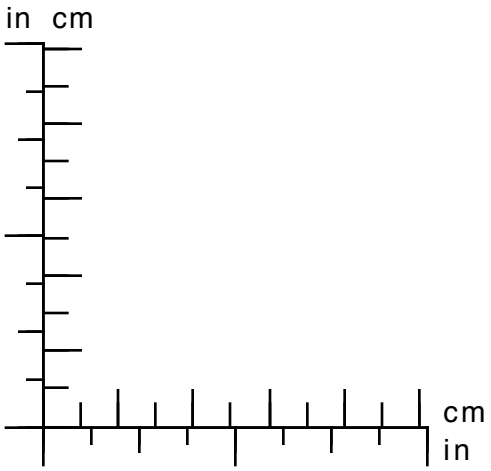
Sustainer

	Nose cone	Cardboard (0.68 g/cm³)	Ellipsoid	Len: 14.6 cm	Mass: 31.6 g
	STM32 Bluepill		Dia_{out} 2.5 cm		Mass: 36.9 g
	BMP388 Altimeter		Dia_{out} 2.5 cm		Mass: 1.2 g
	Servos		Dia_{out} 2.5 cm		Mass: 6.8 g
	Egg		Dia_{out} 2.5 cm		Mass: 12.7 g
	Body tube	Cardboard (0.68 g/cm³)	Dia_{in} 6.2 cm Dia_{out} 6.6 cm	Len: 58.4 cm	Mass: 160 g
	Trapezoidal fin set (3)	Cardboard (0.68 g/cm³)	Thick: 0.3 cm		Mass: 9.18 g
	Trapezoidal fin set (4)	Cardboard (0.68 g/cm³)	Thick: 0.3 cm		Mass: 46.3 g
	Engine block	Cardboard (0.68 g/cm³)	Dia_{in} 6.2 cm Dia_{out} 6.2 cm	Len: 0.5 cm	Mass: 0 g
	MPU6050 IMU		Dia_{out} 2.5 cm		Mass: 1.9 g
	Battery		Dia_{out} 2.5 cm		Mass: 20 g
	Wiring + Breadboards		Dia_{out} 2.5 cm		Mass: 20 g


Front
Trapezoidal fin set
Trapezoidal fin set
Trapezoidal fin set
Trapezoidal fin set
Trapezoidal fin set
Trapezoidal fin set






in cm
cm
in