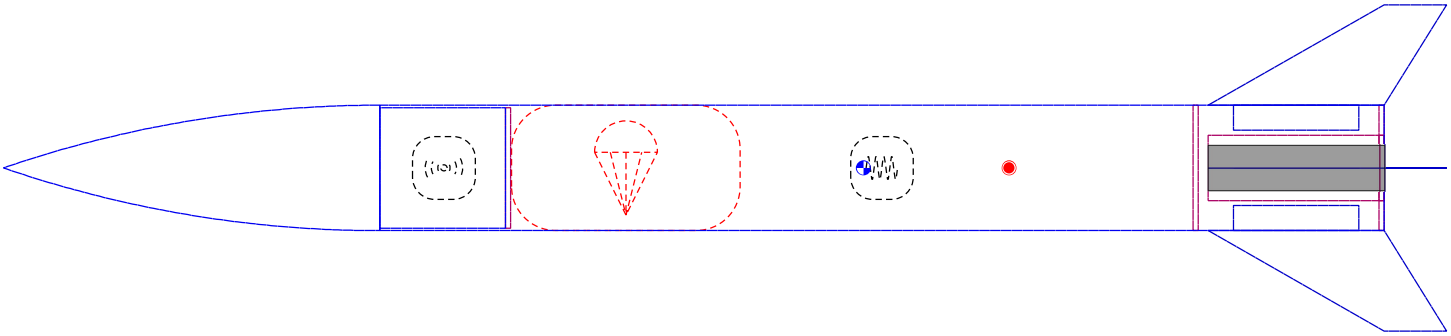
Rocket Design



MARK -1

Stages: 1

Mass (with motor): 222 g

Stability: 1.16 cal / 10.1 %

CG: 34.3 cm

CP: 40.1 cm

C6-0

Altitude	29.8 m
Flight Time	14.7 s
Time to Apogee	2.58 s
Optimum Delay	1.82 s
Velocity off Pad	10.3 m/s
Max Velocity	19.5 m/s
Velocity at Deployment	19.4 m/s
Landing Velocity	2.56 m/s

Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
C6	4.15 N	2.21 s	23.2 N	9.19 Ns	1.91:1	8.3 g	18/70 mm

SCR-C6-0

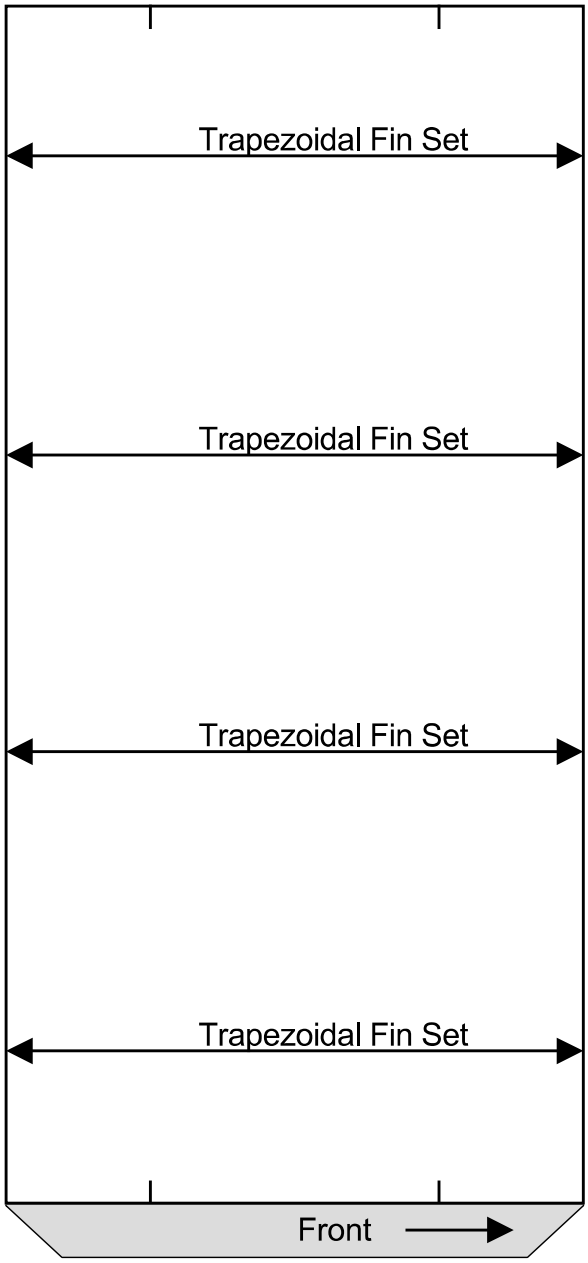
Altitude	36 m
Flight Time	18 s
Time to Apogee	3.2 s
Optimum Delay	1.47 s
Velocity off Pad	8.58 m/s
Max Velocity	17.6 m/s
Velocity at Deployment	16.5 m/s
Landing Velocity	2.47 m/s

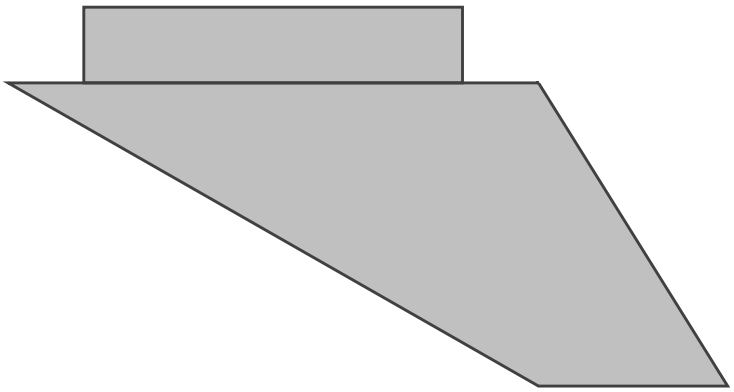
Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
SCR-C6	3.47 N	2.8 s	12.3 N	9.75 Ns	1.60:1	12 g	18/70 mm

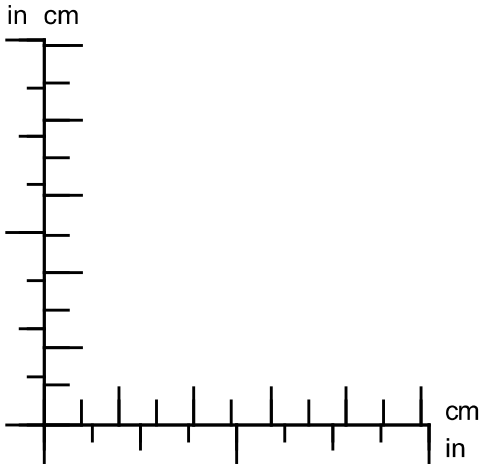
Parts Detail

Stage: Sustainer

	Nose Cone	PVC (1.39 g/cm³)	Ogive	Len: 15 cm	Mass: 41.7 g
	Bulkhead	Cardboard (0.68 g/cm³)	Dia_{out} 4.8 cm	Len: 0.2 cm	Mass: 2.46 g
	Mass Component		Dia_{out} 2.5 cm		Mass: 0 g
	Body Tube	Cardboard (0.68 g/cm³)	Dia_{in} 4.6 cm Dia_{out} 5 cm	Len: 40 cm	Mass: 82 g
	Trapezoidal Fin Set (4)	Cardboard (0.68 g/cm³)	Thick: 0.3 cm		Mass: 19.6 g
	Inner Tube	Paper, spiral kraft glassine, BMS avg, bulk (0.894 g/cm³)	Dia_{in} 2.6 cm Dia_{out} 2.6 cm	Len: 7 cm	Mass: 0 g
	Parachute	Ripstop nylon (67 g/m²)	Dia_{out} 93.2 cm	Len: 9.1 cm	Mass: 49 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
	Centering Ring	Cardboard (0.68 g/cm³)	Dia_{in} 2.6 cm Dia_{out} 5 cm	Len: 0.2 cm	Mass: 1.95 g
	Centering Ring	Cardboard (0.68 g/cm³)	Dia_{in} 0 cm Dia_{out} 5 cm	Len: 0.2 cm	Mass: 2.67 g


Trapezoidal Fin Set
Trapezoidal Fin Set
Trapezoidal Fin Set
Trapezoidal Fin Set
Front

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