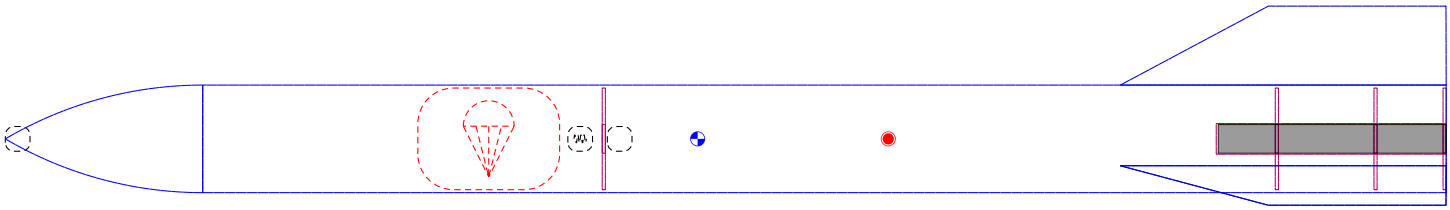
Rocket Design



ana_rocket

Stages: 2

Mass (with motors): 2612 g

Stability: 1.77 cal / 13.2 %

CG: 70.2 cm

CP: 89.5 cm

None; 229H255-14A-5

Altitude	462 m
Flight Time	21.1 s
Time to Apogee	9.53 s
Optimum Delay	8.28 s
Velocity off Pad	16.1 m/s
Max Velocity	107 m/s
Velocity at Deployment	N/A
Landing Velocity	69.5 m/s

Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
229H255-14A	264 N	1.2 s	412 N	316 Ns	10.29:1	162 g	29/231 mm

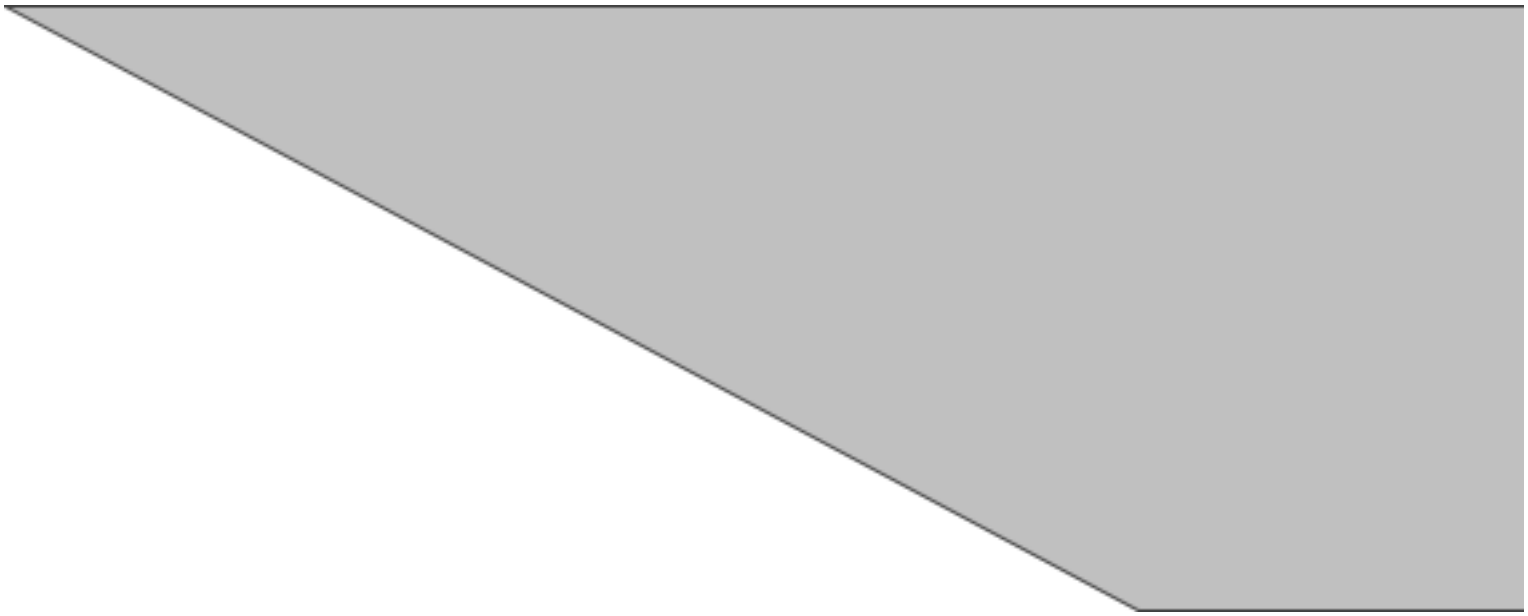
Parts Detail

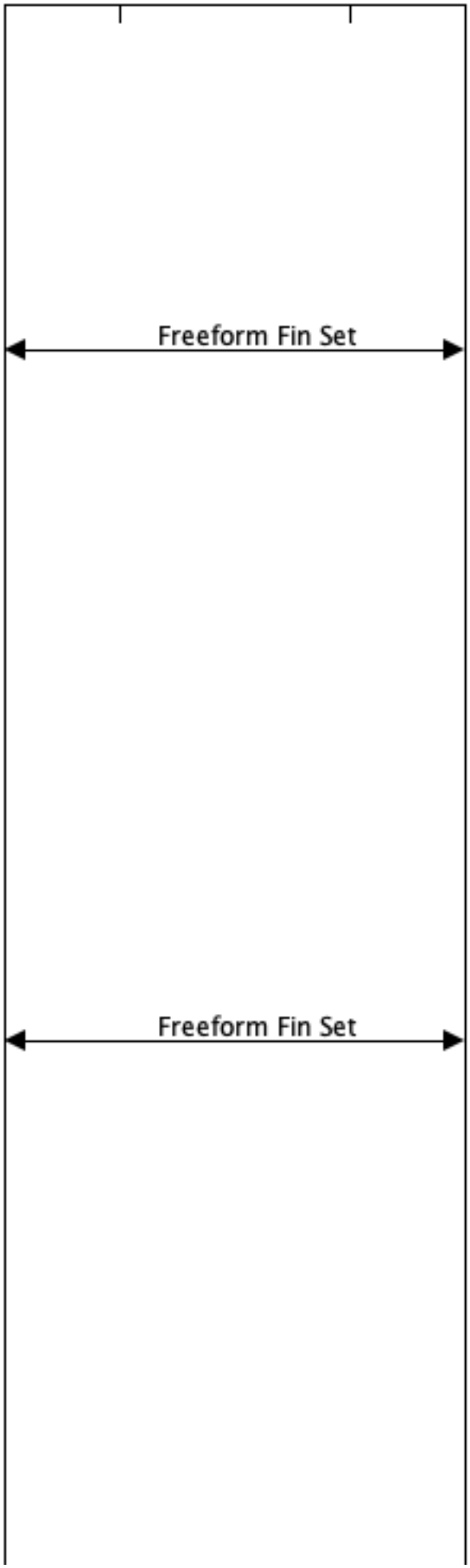
Stage: Stage

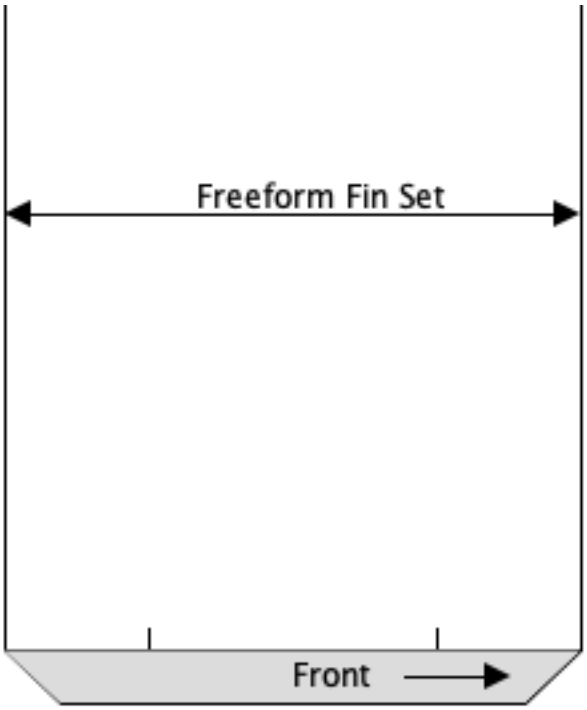
Nose Cone	PLA - 100% infill (1.25 g/cm³)	Ogive	Len: 20 cm	Mass: 116 g
Mass Component		Dia_{out} 2.5 cm		Mass: 500 g

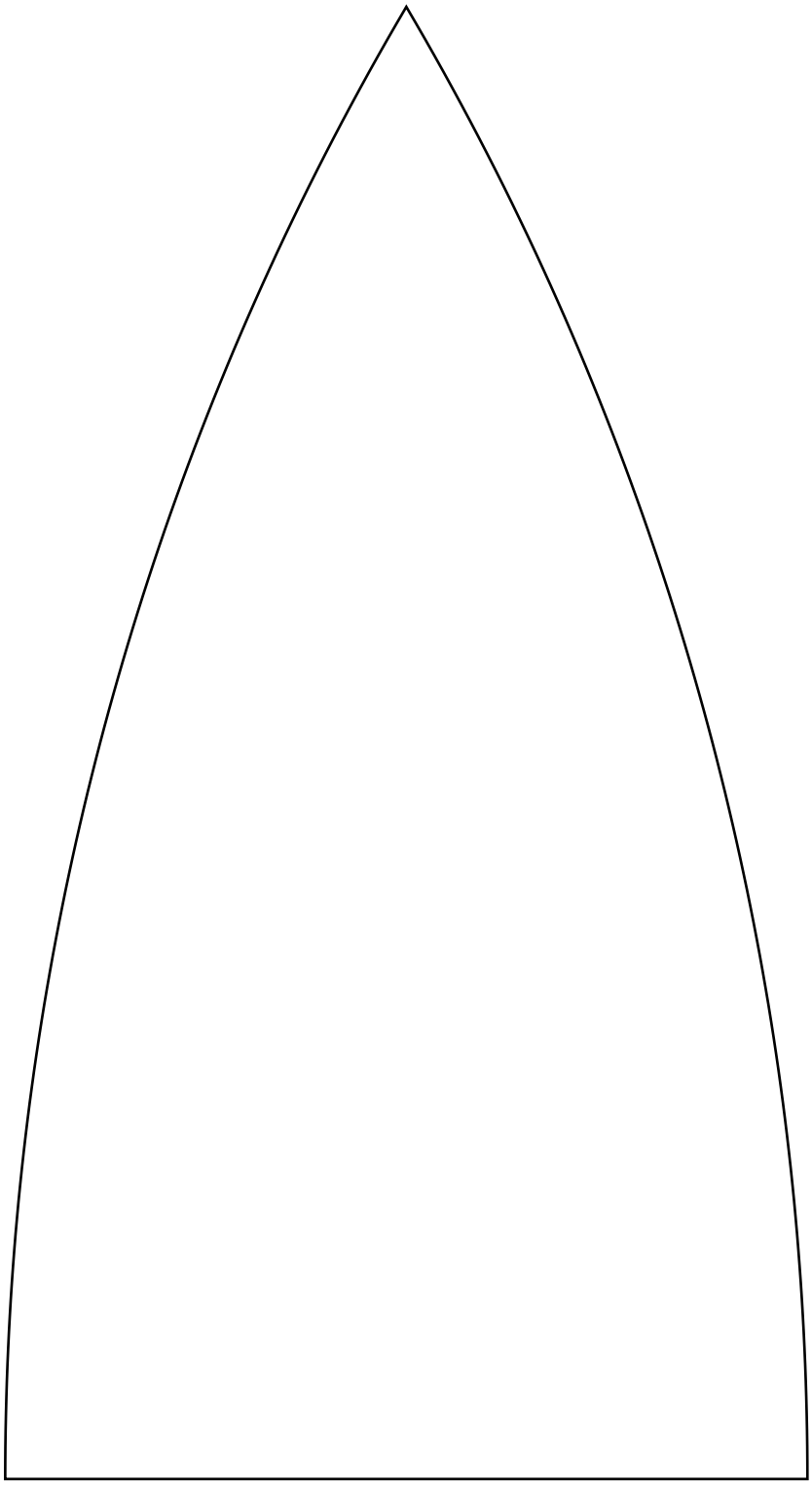
Stage: Stage

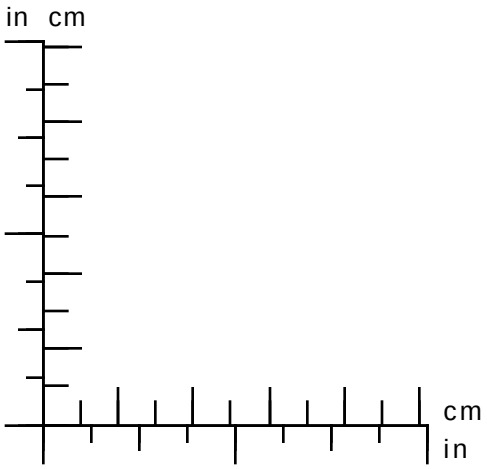
Body Tube	Cardboard (0.68 g/cm³)	Dia_{in} 10.3 cm Dia_{out} 10.9 cm	Len: 126 cm	Mass: 856 g
Centering Ring	Plywood (birch) (0.63 g/cm³)	Dia_{in} 2.9 cm Dia_{out} 10.3 cm	Len: 0.318 cm	Mass: 15.3 g
Freeform Fin Set (3)	Plywood (birch) (0.63 g/cm³)	Thick: 0.3 cm		Mass: 116 g
Engine Block	Aluminum (2.7 g/cm³)	Dia_{in} 2.9 cm Dia_{out} 3.1 cm	Len: 23.3 cm	Mass: 59.3 g
Centering Ring	Plywood (birch) (0.63 g/cm³)	Dia_{in} 2.9 cm Dia_{out} 10.3 cm	Len: 0.318 cm	Mass: 15.3 g
Centering Ring	Plywood (birch) (0.63 g/cm³)	Dia_{in} 2.9 cm Dia_{out} 10.3 cm	Len: 0.318 cm	Mass: 15.3 g
Centering Ring	Plywood (birch) (0.63 g/cm³)	Dia_{in} 2.9 cm Dia_{out} 10.3 cm	Len: 0.318 cm	Mass: 15.3 g
Shock Cord	Braided nylon (2 mm, 1/16 in) (1 g/m)		Len: 40 cm	Mass: 0.4 g
SkyAngle Classic 20 [Cd 0.8 (3 oz) 20.8 in^3]	Ripstop Nylon, lightweight, 1.3 oz. 4 mil (40.3 g/m²)	Dia_{out} 50.8 cm	Len: 14.4 cm	Mass: 85 g
Shroud Lines	5625 Nylon woven tubular #950 [flat 3/8 x 3/32 in (12.7 x 1.9 mm)] (12.4 g/m)	Lines: 4	Len: 50.8 cm	
Mass Component		Dia_{out} 2.5 cm		Mass: 500 g




Freeform Fin Set
Freeform Fin Set


Freeform Fin Set
Front

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