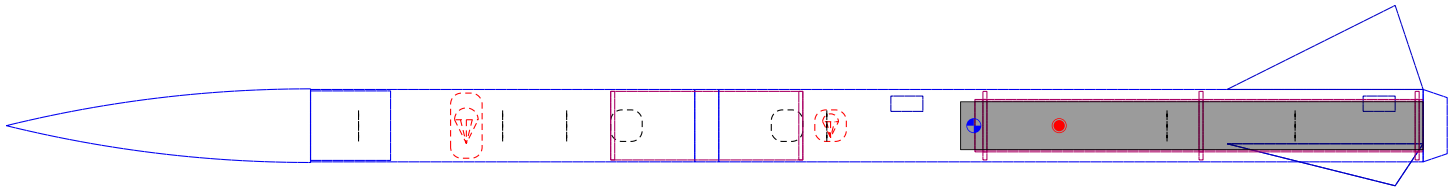


Rocket Design



Belchfire 3000 (Mach My Day!)

Stages: 1

Mass (with motor): 53 oz

Stability: 1.16 cal

CG: 30.216 in

CP: 32.883 in






J285-15

Altitude 7523 ft
 Flight Time 295 s
 Time to Apogee 18 s
 Optimum Delay 16.1 s
 Velocity off Pad 69 ft/s
 Max Velocity 1221 ft/s
 Velocity at Deployment 36.6 ft/s
 Landing Velocity 25.8 ft/s

Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
J285	289 N	2.25 s	369 N	648 Ns	19.59:1	11.5 oz	1.5/14.4 in

Parts Detail

Stage

	Nose cone	Polystyrene PS (0.606 oz/in ³)	Ogive	Len: 9.5 in	Mass: 3.89 oz
	Radio Transmitter		Dia _{out} 0.984 in		Mass: 1 oz
	Fwd Body	Paper (0.648 oz/in ³)	Dia _{in} 2.14 in Dia _{out} 2.26 in	Len: 12 in	Mass: 2.32 oz
	Main Parachute	Rip stop nylon (0.155 oz/ft ²)	Dia _{out} 24 in	Len: 0.984 in	Mass: 0.705 oz
	Shroud Lines	1/16 In. braided nylon (0.011 oz/ft)	Lines: 8	Len: 30 in	
	Kevlar Shock Cord		Dia _{out} 0.984 in		Mass: 0.6 oz
	Glass & Finish		Dia _{out} 0.984 in		Mass: 1 oz
	Avbay Center sec.	Paper (0.648 oz/in ³)	Dia _{in} 2.14 in Dia _{out} 2.26 in	Len: 0.75 in	Mass: 0.19 oz
	AvBay	Cardboard (0.393 oz/in ³)	Dia _{in} 2.14 in Dia _{out} 2.14 in	Len: 6 in	Mass: 0 oz
	Kevlar Shock cord		Dia _{out} 0.984 in		Mass: 0.6 oz
	Avionics and Hardware		Dia _{out} 0.984 in		Mass: 4 oz
	Aft Bulkhead	Plywood (birch) (0.364 oz/in ³)	Dia _{out} 2.14 in	Len: 0.125 in	Mass: 0.164 oz
	Fwd Bulkhead	Plywood (birch) (0.364 oz/in ³)	Dia _{out} 2.14 in	Len: 0.125 in	Mass: 0.164 oz
	Aft Body	Paper (0.648 oz/in ³)	Dia _{in} 2.14 in Dia _{out} 2.26 in	Len: 22 in	Mass: 4.28 oz
	Drogue Parachute	Ripstop nylon (0.22 oz/ft ²)	Dia _{out} 16 in	Len: 0.984 in	Mass: 0.421 oz
	Shroud Lines	Elastic cord (round 2 mm, 1/16 in) (0.019 oz/ft)	Lines: 6	Len: 11.811 in	
	Fwd Rail Guide	Cardboard (0.393 oz/in ³)	Dia _{in} 0.4 in Dia _{out} 0.479 in	Len: 1 in	Mass: 0.12 oz
	Aft Rail Guide	Cardboard (0.393 oz/in ³)	Dia _{in} 0.4 in Dia _{out} 0.479 in	Len: 1 in	Mass: 0.12 oz
	Fin set (3)	Birch (0.394 oz/in ³)	Thick: 0.125 in		Mass: 1.51 oz
	Kevlar Shock Cord		Dia _{out} 0.984 in		Mass: 0.6 oz
	Glass & Finish		Dia _{out} 0.984 in		Mass: 1.5 oz
	Motor Mount LOC/Precision LOC MMT-1.52	[material:Paper] (0.648 oz/in ³)	Dia _{in} 1.525 in Dia _{out} 1.635 in	Len: 14 in	Mass: 2.48 oz



Aeropack Motor Retainer

Dia_{out} 0.984 in

Mass: 0.8 oz



Fwd Centering ring

Aircraft
plywood (LOC)
(0.419 oz/in³)

Dia_{in} 1.64 in
Dia_{out} 2.14 in

Len: 0.125 in

Mass: 0.078 oz



Mid Centering ring

Aircraft
plywood (LOC)
(0.419 oz/in³)

Dia_{in} 1.64 in
Dia_{out} 2.14 in

Len: 0.125 in

Mass: 0.078 oz



Fwd Centering ring

Aircraft
plywood (LOC)
(0.419 oz/in³)

Dia_{in} 1.64 in
Dia_{out} 2.14 in

Len: 0.125 in

Mass: 0.078 oz



Tailcone

G10 fiberglass
(1.1 oz/in³)

Fore Dia: 2.26
in
Aft Dia: 1.75 in

Len: 0.75 in

Mass: 0.2 oz

