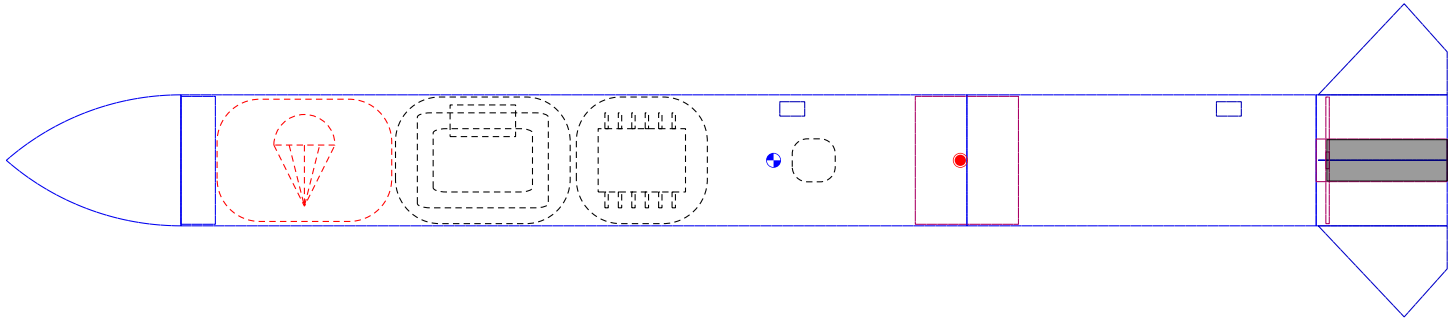


Rocket Design



Rocket

Stages: 1

Mass (with motor): 0.993 lb

Stability: 1.43 cal

CG: 17.572 in

CP: 21.85 in

F39-3















Altitude	812 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
Flight Time	29.3 s	F39	39.6 N	1.25 s	59.5 N	49.7 Ns	9.10:1	0.05 lb	0.945/2.7
Time to Apogee	5.65 s								6 in
Optimum Delay	5.72 s								
Velocity off Pad	35.4 mph								
Max Velocity	199 mph								
Velocity at Deployment	63.9 mph								
Landing Velocity	24.4 mph								

F12-2

Altitude	674 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Propellant Wt	Size
Flight Time	25.8 s	F12	15.9 N	2.7 s	23.5 N	43.2 Ns	3.61:1	0.067 lb	0.945/2.7
Time to Apogee	6.15 s								6 in
Optimum Delay	4.27 s								
Velocity off Pad	20.2 mph								
Max Velocity	136 mph								
Velocity at Deployment	53.2 mph								
Landing Velocity	24.4 mph								

Parts Detail

Sustainer

	Nose cone	Cardboard (0.393 oz/in ³)	Ogive	Len: 4 in	Mass: 0.137 lb
	3 inch body tube	Kraft phenolic (0.549 oz/in ³)	Dia _{in} 2.93 in Dia _{out} 3 in	Len: 18 in	Mass: 0.181 lb
	AC-74 Coupler	Paper (office) (0.474 oz/in ³)	Dia _{in} 2.851 in Dia _{out} 2.93 in	Len: 2.362 in	Mass: 0.025 lb
	PARAFOIL	Ripstop nylon (0.22 oz/ft ²)	Dia _{out} 11.811 in	Len: 4 in	Mass: 0.055 lb
	Shroud Lines	Elastic cord (round 2 mm, 1/16 in) (0.019 oz/ft)	Lines: 6	Len: 11.811 in	
	Actuator		Dia _{out} 2.9 in		Mass: 0.165 lb
	Electronics		Dia _{out} 2.9 in		Mass: 0.066 lb
	Unspecified		Dia _{out} 0.984 in		Mass: 0 lb
	Launch lug	Cardboard (0.393 oz/in ³)	Dia _{in} 0.251 in Dia _{out} 0.33 in	Len: 0.57 in	Mass: 0.001 lb
	3 inch Body tube	Kraft phenolic (0.549 oz/in ³)	Dia _{in} 2.93 in Dia _{out} 3 in	Len: 8 in	Mass: 0.081 lb
	Launch lug	Cardboard (0.393 oz/in ³)	Dia _{in} 0.251 in Dia _{out} 0.33 in	Len: 0.57 in	Mass: 0.001 lb
	Fin Can	Polycarbonate (Lexan) (0.694 oz/in ³)	Dia _{in} 2.843 in Dia _{out} 3 in	Len: 3 in	Mass: 0.094 lb
	Freeform fin set (4)	pla 30% (0.231 oz/in ³)	Thick: 0.118 in		Mass: 0.024 lb
	Inner Tube	Kraft phenolic (0.549 oz/in ³)	Dia _{in} 0.95 in Dia _{out} 0.976 in	Len: 3 in	Mass: 0.004 lb
	Centering ring	Cardboard (0.393 oz/in ³)	Dia _{in} 0.384 in Dia _{out} 2.9 in	Len: 0.079 in	Mass: 0.013 lb

