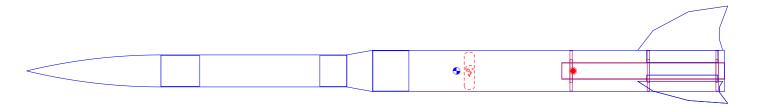
Rocket Design



bfhpr Stages: 1

Mass (Empty): 1156 g Stability: 2.82 cal / 16.6 %

CG: 1057 mm CP: 1344 mm

H110-9

Motor Altitude 2307 ft 269H11 106 N 2.54 s 125 N 271 Ns 7.32:1 153 g 38/186 11.6 s 11.3 m/s 11.3 m/s 143 m/s 143 m/s 154 m/s 155 m	11110-9									
Time to Apogee 11.6 s Optimum Delay 8.92 s Velocity off Pad 11.3 m/s Max Velocity 143 m/s Velocity at 2.63 m/s Deployment Landing 6.36 m/s	Altitude	2307 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Time to Apogee 11.6 s Optimum Delay 8.92 s Velocity off Pad 11.3 m/s Max Velocity 143 m/s Velocity at 2.63 m/s Deployment Landing 6.36 m/s	Flight Time	121 s		106 N	2.54 s	125 N	271 Ns	7.32:1	153 g	
Velocity off Pad 11.3 m/s Max Velocity 143 m/s Velocity at 2.63 m/s Deployment Landing 6.36 m/s	Time to Apogee	11.6 s	0-14A							111111
Max Velocity 143 m/s Velocity at 2.63 m/s Deployment Landing 6.36 m/s	Optimum Delay	8.92 s								
Velocity at 2.63 m/s Deployment Landing 6.36 m/s	Velocity off Pad	11.3 m/s								
Deployment Landing 6.36 m/s	Max Velocity	143 m/s								
	•	2.63 m/s								
		6.36 m/s								

H225-9

Altitude	2349 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	122 s	273H22 5-14A	229 N	1.2 s	264 N	274 Ns	16.11:1	124 g	38/186
Time to Apogee	10.8 s	J-14A							mm
Optimum Delay	9.77 s								
Velocity off Pad	17.4 m/s								
Max Velocity	169 m/s								
Velocity at Deployment	7.47 m/s								
Landing Velocity	6.36 m/s								

H73-8

Altitude	1483 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse	Thrust to Wt	Motor Wt	Size
Flight Time	80.8 s	Н73Ј	70 N	2.68 s	94.6 N	188 Ns	4.87:1	148 g	38/152
Time to Apogee									mm
Optimum Delay	7.02 s								
Velocity off Pad	9.57 m/s								
Max Velocity	97.1 m/s								
Velocity at Deployment	8.9 m/s								
Landing Velocity	6.34 m/s								
I300-10		I							
I300-10 Altitude	3419 ft	Motor	Avg Thrust	Burn Time	Max Thrust	Total Impulse		Motor Wt	Size
	3419 ft 170 s	Motor I300T	Avg Thrust	Burn Time 1.47 s	Max Thrust 473 N	Total Impulse 437 Ns	Thrust to Wt 18.90:1	Motor Wt 222 g	38/250
Altitude	170 s					-			
Altitude Flight Time	170 s 12.1 s					-			38/250
Altitude Flight Time Time to Apogee	170 s 12.1 s 10.9 s					-			38/250
Altitude Flight Time Time to Apogee Optimum Delay	170 s 12.1 s 10.9 s					-			38/250
Altitude Flight Time Time to Apogee Optimum Delay Velocity off Pad	170 s 12.1 s 10.9 s 23.5 m/s					-			38/250

Velocity

Parts Detail

Stage: Stage

	Nose cone	Polystyrene PS (1.05 g/cm³)	Ogive	Len: 330 mm	Mass: 142 g
	Body tube	Paper (1.12 g/cm³)	Diain 76.2 mm Diaout 78.7 mm	Len: 457 mm	Mass: 158 g
	Transition	Polystyrene PS (1.05 g/cm³)	Fore Dia: 78.7 mm Aft Dia: 102 mm	Len: 63.5 mm	Mass: 142 g
	Body tube	Paper (1.12 g/cm³)	Diain 99.1 mm Diaout 102 mm	Len: 865 mm	Mass: 388 g
	Motor Mount	Paper, kraft glassine, LOC tube avg (0.855 g/cm³)	Diain 38.6 mm Diaout 41.3 mm	Len: 400 mm	Mass: 57.2 g
	Centering ring	Aircraft plywood (LOC) (0.725 g/cm³)	Diain 57.4 mm Diaout 99.1 mm	Len: 6 mm	Mass: 22.3 g
	Centering ring	Aircraft plywood (LOC) (0.725 g/cm³)	Diain 57.4 mm Diaout 99.1 mm	Len: 6 mm	Mass: 22.3 g
	Centering ring	Aircraft plywood (LOC) (0.725 g/cm³)	Diain 57.4 mm Diaout 99.1 mm	Len: 6 mm	Mass: 22.3 g
\bigoplus	Parachute	Rip stop nylon (0.001 g/m²)	Diaout 914 mm	Len: 25 mm	Mass: 85 g
	Shroud Lines	1/16 In. braided nylon (1.02 g/m)	Lines: 8	Len: 914 mm	
4	Fin set (3)	Aircraft plywood (LOC) (0.725 g/cm³)	Thick: 3 mm		Mass: 134 g