

## Milestone Review Flysheet 2017-2018

Institution	Maharishi School				Milestone	PDR				
Vehicle Properties					Motor Properties					
Total Length (in)		90			Motor Brand/Designation		Aerotech K680			
Diameter (in)		6			Max/Average Thrust (lb.)		187.72/152.87			
Gross Lift Off Weigh (lb.)		20.9			Total Impulse (lbf-s)		530			
Airframe Material(s)		Fiberglass			Mass Before/After Burn (lb.)		6.7/3.8			
Fin Material and Thickness (in)		Fiberglass, 0.118			Liftoff Thrust (lb.)		140			
Coupler Length/Shoulder Length(s) (in)		4			Motor Retention Method		Motor Retention Cap			
Stability Analysis					Ascent Analysis					
Center of Pressure (in from nose)		72 inches			Maximum Velocity (ft/s)		682			
Center of Gravity (in from nose)		58.9 inches			Maximum Mach Number		0.62			
Static Stability Margin (on pad)		2.19			Maximum Acceleration (ft/s^2)		247.7			
Static Stability Margin (at rail exit)		2.01			Predicted Apogee (From Sim.) (ft)		5,327			
Thrust-to-Weight Ratio		7.3								
Rail Size/Type and Length (in)		12			Recovery System Properties					
Rail Exit Velocity (ft/s)		68			Main Parachute					
Manufacturer/Model		Crossfire			Manufacturer/Model		Crossfire			
Size/Diameter (in or ft)		18			Size/Diameter (in or ft)		144			
Altitude at Deployment (ft)		5327			Altitude at Deployment (ft)		500			
Velocity at Deployment (ft/s)		0			Velocity at Deployment (ft/s)		101.00			
Terminal Velocity (ft/s)		101.00			Terminal Velocity (ft/s)		15.38			
Recovery Harness Material		Ripstop Nylon			Recovery Harness Material		Ripstop Nylon			
Recovery Harness Size/Thickness (in)		0.2			Recovery Harness Size/Thickness (in)		0.2			
Recovery Harness Length (ft)		22.5			Recovery Harness Length (ft)		22.5			
Harness/Airframe Interfaces		n/a			Harness/Airframe Interfaces		n/a			
					Kinetic Energy of Each Section (Ft-lbs)		Section 1	Section 2	Section 3	Section 4
							76.77	n/a	n/a	n/a



Test Plans, Status, and Results	
Ejection Charge Tests	Planned to do by Nov 30th
Sub-scale Test Flights	Planned to do 2 sub-scale flights by Dec 14th
Full-scale Test Flights	Planned two full-scale flights by March 16th
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Additional Comments	



