

# Milestone Review Flysheet

<b>Institution</b>	Pennsylvania State University				<b>Milestone</b>	PDR			
<b>Vehicle Properties</b>					<b>Motor Properties</b>				
Total Length (in)	141				Motor Manufacturer	Cesaroni			
Diameter (in)	5.12				Motor Designation	L 910			
Gross Lift Off Weigh (lb)	25				Max/Average Thrust (lb)	Max: 236			
Airframe Material	G12 Profusion				Total Impulse (lbf-s)	642			
Fin Material	G12 Profusion				Mass Before/After Burn	2616g/1270g			
Drag	0.48				Liftoff Thrust (lb)	236			
<b>Stability Analysis</b>					<b>Ascent Analysis</b>				
Center of Pressure (in from nose)	98				Maximum Velocity (ft/s)	709			
Center of Gravity (in from nose)	91				Maximum Mach Number	0.64			
Static Stability Margin	1.82				Maximum Acceleration (ft/s^2)	248			
Static Stability Margin (off launch rail)	1.37				Target Apogee (From Simulations)	5300			
Thrust-to-Weight Ratio	8.15				Stable Velocity (ft/s)				
Rail Size and Length (in)	1.5/156				Distance to Stable Velocity (ft)				
Rail Exit Velocity	63.2								
<b>Recovery System Properties</b>					<b>Recovery System Properties</b>				
<b>Dogue Parachute</b>					<b>Main Parachute</b>				
Manufacturer/Model	Fruity Chutes Elliptical				Manufacturer/Model	Fruity Chute Iris Ulra			
Size	24" Diameter				Size	64" Diameter			
Altitude at Deployment (ft)	2500				Altitude at Deployment (ft)	900			
Velocity at Deployment (ft/s)	-				Velocity at Deployment (ft/s)	-			
Terminal Velocity (ft/s)	-				Terminal Velocity (ft/s)	19.4			
Recovery Harness Material	Kevlar				Recovery Harness Material	Kevlar			
Harness Size/Thickness (in)	0.5				Harness Size/Thickness (in)	0.5			
Recovery Harness Length (ft)	50				Recovery Harness Length (ft)				
Harness/Airframe Interfaces	1/2" Steel Eye Bolt				Harness/Airframe Interfaces	1/2" Steel Eye Bolt			
Kinetic Energy of	Forward Body	Aft Body	Section 3	Section 4	Kinetic	Nose/Body Tube	Avionics Bay	Booster	Section 4

	496	882				46.6	11.8	70.6	
<b>Recovery Electronics</b>					<b>Recovery Electronics</b>				
Altimeter(s)/Timer(s) (Make/Model)	Stratologger SL 100				Rocket Locators (Make/Model)	Garmin Astro 320			
Redundancy Plan	Triple Redundancy for apogee event. Single level redundancy for drogue and main event				Transmitting Frequencies	***Required by CDR***			
Pad Stay Time (Launch Configuration)	2 hours				Pyrodex Mass Drogue Chute (grams)	5			
					Pyrodex Mass Main Chute (grams)	4			
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