Milestone Review Flysheet

  Milestone: FRR

Vehicle Properties

Diameter (mm)    102.6

Length (mm)    1778

Gross Liftoff Weight (g)    ?

Launch Rail button Size    fits a 10/10 rail

Motor Retention     Aluminum motor retainer

Motor Properties

Motor Manufacturer    cesaroni

Motor Designation   K650

Max/Average Thrust (N/N)       728.7/656

Total Impulse (N-sec)   1749.5

Mass pre/post Burn (g)    8884/8175

Stability Analysis

Center of Pressure (mm)   1997.31

Center of Gravity (mm)    1459.03

Static Stability Margin   5.3

Thrust-to-Weight Ratio                     ??

Ascent Analysis

Rail Exit Velocity (ft/s)    ?

Max Velocity (m/s)   174.9

Max Mach Number    0.53

Max Acceleration (ft/s^2)   280

Max Altitude (ft)   4224

Recovery System Properties

Drogue Parachute

Manufacturer/Model                      PML/24”

Size    24” diameter

Altitude at Deployment (ft)         4219

Velocity at Deployment (m/s)          1.28

Terminal Velocity=sqrt of ((2\*8175g\*acceleration of rocket falling)/(density of air\*area of rocket\*drag coefficient))        ??

Recovery Harness Material    kevlar

Harness Size/Thickness (in)    5/16

Recovery Harness Length (ft)    25ft

Harness/Airframe Interfaces   ??

Kinetic Energy During Descent (ft-lb)  ??

Main Parachute

Manufacturer/Model                          spherachute/96”

Size    96” diameter

Altitude at Deployment (ft)                900

Velocity at Deployment (ft/s)    ??

Landing Velocity (m/s)         20.5

Recovery Harness Material    Kevlar

Harness Size/Thickness (in)    5/16

Recovery Harness Length (ft)    25

Harness/Airframe Interfaces      ??

   Kinetic energy upon landing (ft-lb)

Altimeter(s) Make/Model    stratologger/perfectflite

Pad Stay Time (Launch Configuration)    1 hour

Electronics/Ejection

Rocket Locators:        ??

Transmitting Frequencies    70cm bank (in 125 hz steps)

Black Power Mass Drogue Parachute     2.5g per charge

Black Power Mass Main Parachute     2g per change