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NASA SLI

Cedar Park Rocket Team

MAGNETIC G-FORCE REMEDIATION



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Our Rocket Requirements

- The rocket must reach 5,280 feet above ground level
- The Rocket payload should delay or equalize the effects of G-Forces on the inside container by using magnetic fields

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Our preliminary Rocket design and Goals

- Rocket stability margin: 5.74
- Center of gravity: 856.94 mm
- Center of diametric pressure: 1440.47 mm
- Length: 1787.52 mm ,
- Mass: 4046.784g
- Diameter: 102.21 mm ,
- Span Diameter: 356.21 mm
- Engines: [J395RT]

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Parts and Materials

- Motor: Gorilla motor Works J395RT
- Fiberglass 4" diameter standard wall conical 5:1 nose cone
- Kevlar tether 5/16 inch diameter 20 feet length
- FIN-B-04 0.062 inches thick, 8 inch root chord, 0 inch tip chord, 5 inch span, 8 inch sweep distance public missiles

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Parts and materials cont.

- 4 inch diameter G12 fiberglass airframe 48 feet length
- 4 inch diameter G12 fiberglass 8 inch length diameter coupler
- Aeropack 54mm diameter fiberglass motor tube retainer
- Altus metrum telemetrum
- 4 inch diameter fiberglass bulkplate
- 18 inch diameter standard parachute
- 36 inch diameter standard parachute

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Recovery System

- Redundant black powder charges, circuit systems, and batteries for both the drogue and main parachutes.
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Final Payload choice

- Magnetic Dampening
 - Using magnetic levitation to diminish G-forces experienced by the payload



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