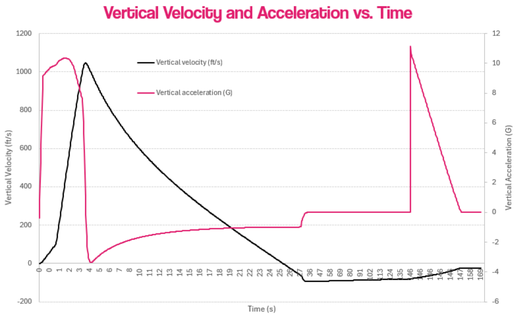
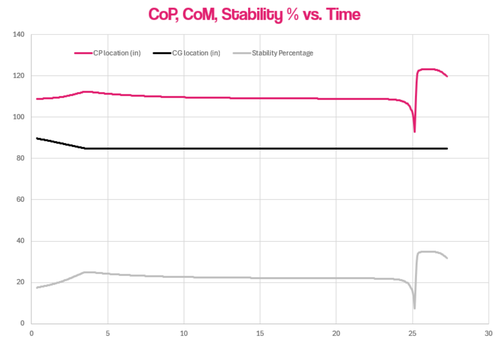
Spacecraft Design Capstone

Goal: Design a rocket carrying a scientific payload to *exactly* 10,000 ft
What: International Rocket Engineering Competition
Where: Midland, Texas

Stats:

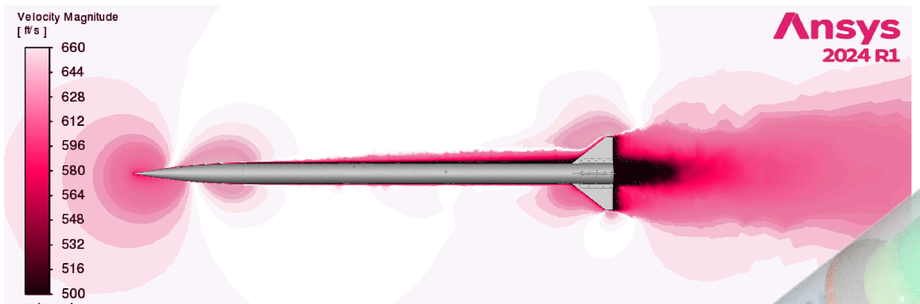
- Length: 10.8'
- Diameter: 5.5"
- Max. Velocity: 750mph (0.996 M)
- Apogee: 10,000 ft





Motor:

- Max Thrust: 3710 N
- Burn TIme: 3.9 s
- Total Impulse: 9,671 Ns
- Specific Impulse: 209s
- Weight: 17.8 lbs



Rising Star

Metal-Tipped Fiberglass Nose Cone

Body Tubes
- Fiberglass composite wrapped Blue Tube

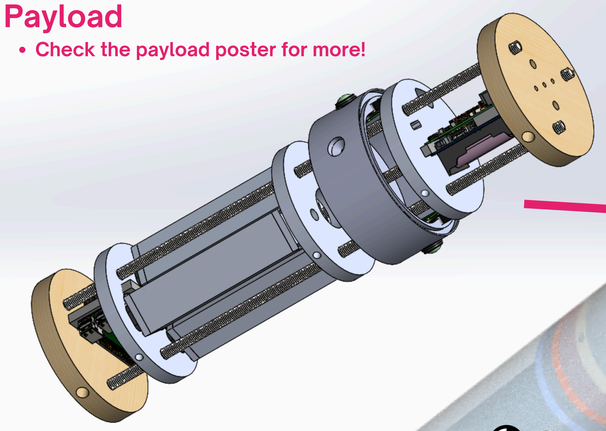
Main Parachute

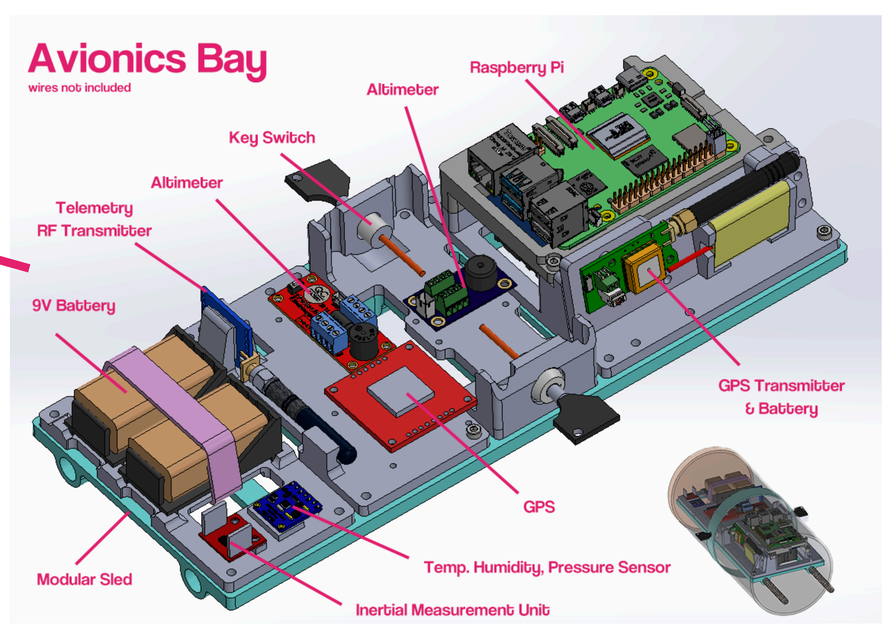
Center of Mass

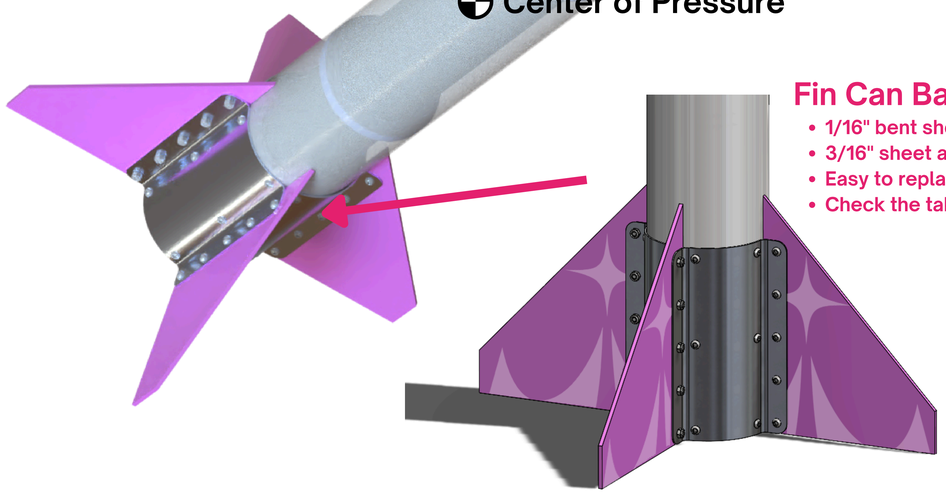
Center of Pressure

Drogue Chute
- Small parachute that slows the vehicle down for safe deployment of the main

Payload
- Check the payload poster for more!

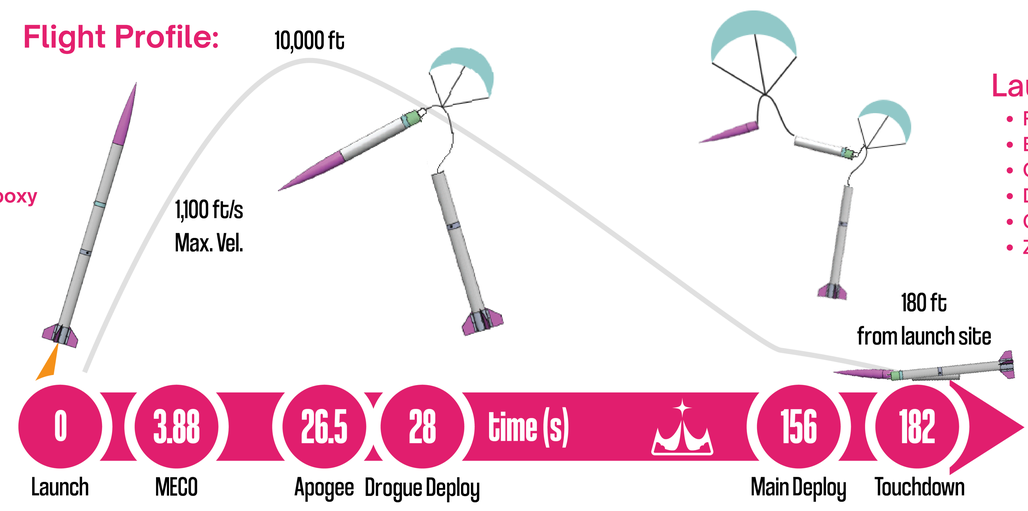






Fin Can Basics
- 1/16" bent sheet aluminum can
- 3/16" sheet aluminum fins
- Easy to replace fins compared to epoxy
- Check the table!

Flight Profile:



Launch Vehicle Team
- Pierce Elliot - Capstone Lead
- Ben Hunt - Launch Vehicle Lead
- Christian Dierksheide - Design
- Derrick Hollins - Avionics
- Collin Gerwe - Simulation
- Zak Upson - Build

Avionics Bay

wires not included