



High Powered Rocket Modification

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Abstract

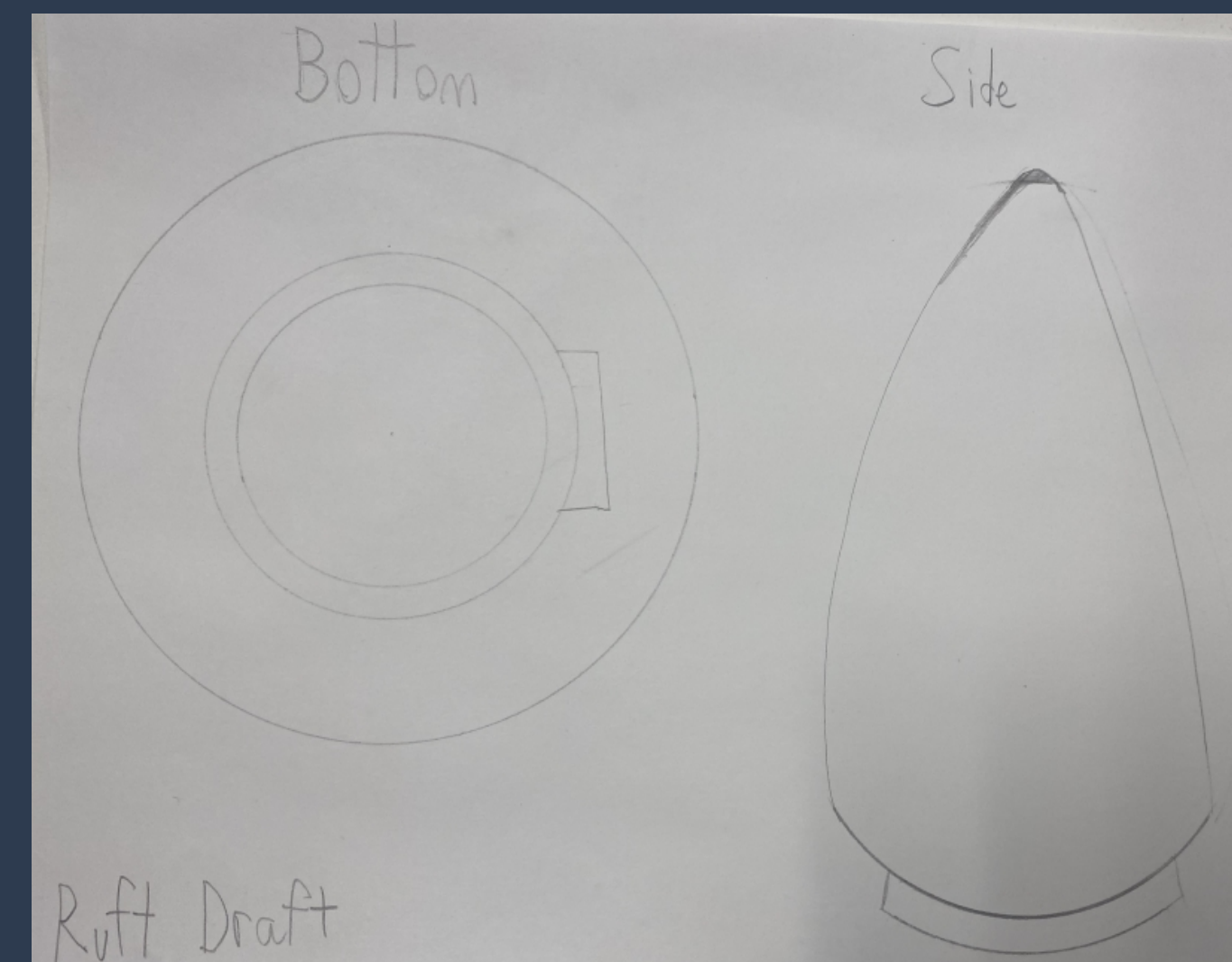
Rocketry has always been a fun challenge for me. Since not only was I able to learn something new every time I did it, but I was able to do something with my hands as well. One area that has been very challenging for me is how to put a tracker onto a rocket that has no electronics bay. And studying for the L2 Certification tests. And this poster shows my thoughts and process I did to pass my L2 Certification Flight.

Problems

The Current problem is there is no way for me to track my rocket. This is a problem because with the motor I will be using, my rocket will be flying thousands of feet up into the air. I got away with flying without a tracker once because the motor I was using was considerably weaker than the one I will be using in my L2 certification flight. Therefore, I will need to find a way to mount a tracker to my rocket.

Solutions

There are three solutions to my current problem. The first solution is to rebuild a portion of my rocket to include a payload section. The second solution would be for me to cut into my nosecone and find a way to mount the tracker in there. I would do this via foam, a 3D-printed part, or I would simply mount the tracker onto a wall of the nosecone. The last solution I found for the tracker is to mount it onto the body tube. I would rather avoid this since it is highly likely that it would be knocked off during flight. So, my best solution would be to find a way to mount the tracker in the nose cone.



Ruff Draft schematics of modified nose cone.



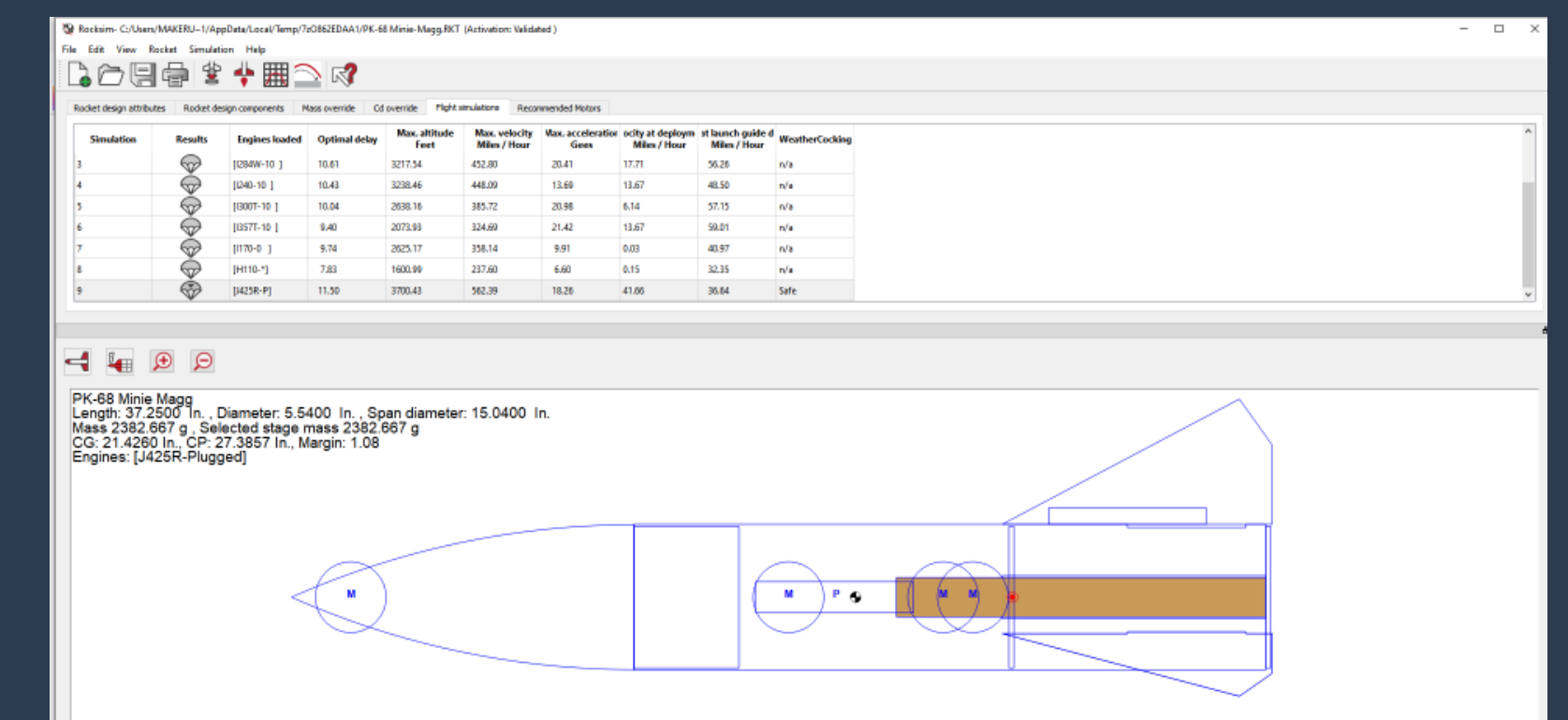
Completed modified nose cone.

Cert. Flight Data

- Altitude: 1987 ft
- Top Speed: 429 mph
- Coast Apogee: 3.2 sec Apogee Eject: -0.9 sec
- Flight Duration: 50.7 sec
- Descent: 26 mph
- Weight of Rocket: 5.3 lbs
- Center of Pressure: 27.4"
- Center of Gravity: 21.4"
- Motor: Aerotech J425R-14A
- Length of Rocket: 37"
- Diameter of Rocket: 5.54"

Materials Used

JB Weld Clear Epoxy
 Clay Epoxy
 3D Filament
 PVC Nose Cone



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