

Rocket Data Sheet and Launch Record

Rocket Description		Recovery Information		Altimeter Two Data	
Owner:	Dakota	Ejection Occurred		Apogee Altitude:	1265
Rocket Name:	Final Frontier	•• During Ascent	•• At Apogee	Top Speed:	221
Type:	Arcas	•• After Apogee	•• During Descent	Burn Time (burn):	1.4
Length: (inches)	56	•• Ejection Failure		Peak Acc (Pacc):	11.1
Diameter: (inches)	2.6	Parachute Deployment		Avg Acc (Aacc):	6.8
Fins:	4	•• Full	•• Partial	Coast Apogee (C2AP):	8.5
Listed Mass: (g)	620	•• Did not deploy		Apogee to Eject (AP2E):	-1.1
Date of Construction:	3/1/2016	Parachute Descent		Ejection Alt. (EALt):	1250
Recommended Motors: (G only)	G53-5FJ,G64-7W, G71-7R, G76-7G,G38-7FJ,G40-7W, G77-7R,	•• Stable Descent	•• Tangled lines	Descent Speed (dESc):	11
Center Gravity(CG):	39.25	•• Some swaying	•• Sprial descent	Flight Duration (durA):	84.1
Center Pressure(CP):	46.74	Reason for Recovery Failure		Altimeter Data Analysis	
Building Notes		•• Damaged Chute		Apogee? The apogee landed very close to what I predicted which I was happy about. The Apogee looks right for what it went. Ejection? It ejected early but I feel like it wouldn't have gone much higher even if it popped later.	
The building went fine with no problems after we got the little tube with not fin spots sorted out.		•• Tight Upper Body tube			
Estimated Cd:	0.4	•• Improper setup		Prediction vs Actual Analysis	
Predicted Altitude:	1275	•• Chute Separated		difference? There was only a 10 feet difference. why? Because the Cd must have been really close to the recommended one I chose. The engine popped the delay charge early. wind? was 10-15 MPH launch angle? I did not change the angle so it was straight up.	
Prediction Notes		•• Motor Ejected			
Rocket cataloge says 1300. I made this prediction because from looking at the data I kind of averaged what I got and estimated the Cd to be greater than the prefered one.		•• Unplanned Separation		Lessons Learned	
Launch Information		•• Other		Building? I learned that Duct tape is safe to use on some parts of the engine like to hold the igniter in until it launches. Painting? I need to use stinsls next time because the free hand spray painting didn't work very well when the top started getting "chunky" just built up paint or drops caused it to be rough. Predicting? I learned how to predict how high the rocket will go roughly depending on the right conditions. Launching? I learned from the other rockets that sometimes it is hard to launch the rocket because the igniter or engine is being a pain. Recovery? I learned that the rockets could fly anywhere one landed in the water, one landed on a ladies porch I am just glad that a lot landed close and fine.	
Date:	5/3/2016	Descent Speed			
Time of Launch:	10:50	•• Slow	•• Average speed		
Location:	Driving range	•• Very fast	•• Ballistic		
Rocket Mass(g):	610	Landing			
Motor:	653-7FJ	•• Soft	•• Water		
Motor Mass(g):	148.2	•• Tree	•• Caught on Wire		
Altimeter Mass(g):	9.9	•• Hard	•• Crash		
Liftoff Mass(g):	768.1	•• Landed on Building		Recovery	
Wind Direction:	West	•• Full Recovery	•• Lost	Recovery was good there was no damage to the rocket and it was a full recovery.	
Wind Speed:	10-15 MPH	•• Not Recoverable	•• Parts lost		
Igniter:	Copper	Distance & Direction from pad:		Recovery Notes	
No. of tries to ignite:	1	Landed in the practice field next to the school. West			
Ignition		Recovery Information			
•• Successfull	•• Blow Out	Post Launch Information			
•• Caught on clips	•• Motor Failure	Flight Grade			
Trajectory		•• Excellent			
•• Straight-Up	•• Spinning	•• Good			
•• Corkscrew	•• Non-vertical	•• Fair			
•• Into the wind	•• Unstable	•• Poor			
Launch Notes		•• Rocket cannot launch again		Rocket Project Suggestions	
Launch was very clean. Nothing went wrong with the launch and it went off very easily.		Describe any damage to the rocket:		There is not much more I could think to hand over ownership to the students. Because we need help building them like where to put super glue and other things. maybe open up the rocket type is the only thing I can think of.	
		There was no damage to the rocket.			