

# Rocket Data Sheet and Launch Record

Rocket Description		Recovery Information		Altimeter Two Data			
Owner:	Patrick Kelly	<b>Ejection Occurred</b>		Apogee Altitude:	1282 ft		
Rocket Name:	US Army	• During Ascent	• At Apogee	Top Speed:	217 mph		
Type:	Arcas	• After Apogee	• During Descent	Burn Time (burn):	1.43 s		
Length: (inches)	56	• Ejection Failure		Peak Acc (Pacc):	13.1 g		
Diameter: (inches)	2.6	<b>Parachute Deployment</b>		Avg Acc (Aacc):	5.1 g		
Fins:	4	• Full	• Partial	Coast Apogee (C2AP):	8.1 g		
Listed Mass: (g)	620	• Did not deploy		Apogee to Eject (AP2E):	-0.9 s		
Date of Construction:	Early March	<b>Parachute Descent</b>		Ejection Alt. (EALt):	1276 ft		
Recommended Motors: (G only)	G53-5J, G64-7W, G71-7R, G76-7G, G38-7FJ, G40-7W, G77-7R, G78-7G,	• Stable Descent	• Tangled lines	Descent Speed (dESc):	26 mph		
G53-5J, G64-7W, G71-7R, G76-7G, G38-7FJ, G40-7W, G77-7R, G78-7G,		• Some swaying	• Sprial descent	Flight Duration (durA):	42.4 s		
Center Gravity(CG):	39.25"	<b>Reason for Recovery Failure</b>		<b>Altimeter Data Analysis</b>			
Center Pressure(CP):	46.75"	• Damaged Chute		Apogee? The information seems to be accurate to what it has to say. Ejection? The ejection was successful, but the parachute didn't open up. The cords tangled around the chute making it unable to open up.			
<b>Building Notes</b>		• Tight Upper Body tube					
I have an older model so my rocket is a little different. I have a launch lug compared to the rest of the rockets. I had to		• Improper setup					
Estimated Cd:	0.62	• Chute Separated					
Predicted Altitude:	1400	• Motor Ejected					
<b>Prediction Notes</b>		• Unplanned Separation					
Mine is an Arcas so it will go a decent high and the engine that I chose is a stronger rocket. I compares to the other launches fairly well. It should go from 1200-1600 ft so I chose the middle of the		• Other					
<b>Launch Information</b>		<b>Descent Speed</b>				<b>Prediction vs Actual Analysis</b>	
Date:	5/3/2016	• Slow	• Average speed			difference? why? wind? launch angle? A main difereence would the wind was higher. The launch angle I didn't focus on much because the rocket didn't want to launch, so that was the main focus. The main difference would be the realism that the rocket was actually being launched compared to the figurative version of you trying to guess how high it would go.	
Time of Launch:	9:20	• Very fast	• Ballistic				
Location:	SW corner of bunrt	<b>Landing</b>					
Rocket Mass(g):	630	• Soft	• Water				
Motor:	G76-7G	• Tree	• Caught on Wire				
Motor Mass(g):	149	• Hard	• Crash				
Altimeter Mass(g):	9.9	• Landed on Building					
Liftoff Mass(g):	788.9	<b>Recovery</b>					
Wind Direction:	NE	• Full Recovery	• Lost				
Wind Speed:	7	• Not Recoverable	• Parts lost				
Igniter:	Copperhead	Distance & Direction from pad:					
No. of tries to ignite:	3	It went south about 50 yd right next to the water.					
<b>Ignition</b>		<b>Recovery Notes</b>		<b>Lessons Learned</b>			
• Successfull	• Blow Out	Parachute didn't open up and a fin broke off.		Building? Painting? Predicting? Launching? Recovery? I learned quite a bit from this. One thing is to make sure everything is perfect and even if you feel like they are they aren't because something will be wrong. The painting was easy because I only painted the tip and the fins. The other parts for the camo was vinal paper from stones. Predicting was a little high, but not off by too much. Launching I learned that the engines just might not want to coperate with you no matter how much you try. Recovery I learned that you can never make things perfect no matter how hard you try to make them that way.			
• Caught on clips	• Motor Failure	<b>Post Launch Information</b>					
<b>Trajectory</b>		<b>Flight Grade</b>					
• Straight-Up	• Spinning	• Excellent					
• Corkscrew	• Non-vertical	• Good					
• Into the wind	• Unstable	• Fair					
<b>Launch Notes</b>		• Poor					
It took 3 tries to get the engine to lit. The ejection was excellent except for the parachute didn't open up. The chute was tangled up from the cords connectinging it to the shock cord.		• Rocket cannot launch again					
		<b>Describe any damage to the rocket:</b>					
		Scuffed up a bit from mud and a fin broke off.					
		<b>Rocket Project Suggestions</b>					
		I would say teach a select few student on how to run differnent things like have a student in charge for each individual camera and one to make sure the parachutes are good and so on so forth.					