

Rocket Data Sheet and Launch Record

Rocket Description		Recovery Information		Altimeter Two Data	
Owner:	Lauren & Morgan	Ejection Occurred		Apogee Altitude:	2002 Ft
Rocket Name:	Kiss	“ During Ascent	“ At Apogee	Top Speed:	328 mph
Type:	Arcas	“ After Apogee	“ During Descent	Burn Time (burn):	1.42 s
Length: (inches)	56 in.	“ Ejection Failure		Peak Acc (Pacc):	12.6 g
Diameter: (inches)	2.6 in.	Parachute Deployment		Avg Acc (Aacc):	10.5 g
Fins:	4	“ Full	“ Partial	Coast Apogee (C2AP):	8.4 s
Listed Mass: (g)	620 g	“ Did not deploy		Apogee to Eject (AP2E):	-8.3 s
Date of Construction:	Feburary 2014	Parachute Descent		Ejection Alt. (EALt):	72
Recommended Motors: (G only)		“ Stable Descent	“ Tangled lines	Descent Speed (dESc):	0
G53-5FJ,G64-7W,G76-7G,G77-7R,G80-10T		“ Some swaying	“ Sprial descent	Flight Duration (durA):	105.9 s
Center Gravity(CG):	38.8	Reason for Recovery Failure		Altimeter Data Analysis	
Center Pressure(CP):	46.75 in.	“ Damaged Chute		New Altimeter 2. Arcas altitude record! Ejection altitude: is this correct? Seems very low for ejection. Rocket went very fast and had a pretty long flight time.	
Estimated Cd:	0.6	“ Tight Upper Body tube			
Predicted Altitude:	1800 Ft	“ Improper setup			
Prediction Notes		“ Chute Separated			
There are many choices with different engines, but we chose the most reasonable choice for our rocket. We researched other Arcas rockets too and based our prediction off of those. We varified our Cd to make the prediction as well.		“ Motor Ejected			
		“ Unplanned Separation			
		“ Other			
		Descent Speed			
		“ Slow	“ Average speed		
		“ Very fast	“ Ballistic		
		Landing			
Launch Information		“ Soft	“ Water	Post Launch Information	
Date:	4/22/2014	“ Tree	“ Caught on Wire	Rocket Damage	
Time of Launch:	9:20:00	“ Hard	“ Crash	“ No Damage	
Location:	Driving range (N)	“ Landed on Building		“ Scuffed Paint	
Rocket Mass:	613 g	Recovery		“ Launch Lugs	
Motor:	G80-7T	“ Full Recovery	“ Lost	“ Engine Stuck	
Motor Mass:	128 g	“ Not Recoverable	“ Parts lost	“ Fins Damaged	
Motor Mass:	6.7 g	Distance & Direction from pad:		Describe any damage to the rocket:	
Altimeter Mass:	6.7 g	Approximately one quarter of a mile into the field west of the golf course		No damage was done to the rocket.	
Liftoff Mass:	747.7 g	Recovery Notes			
Wind Direction:	North	Casey recovered our rocket. It was found about 1/4 mile into the field, slightly southwest from the launch pad. All parts were recovered.			
Wind Speed:	8 mph				
Igniter:	Copper				
No. of tries to ignite:	2 (1 was First Fire)				
Ignition					
“ Successful	“ Blow Out				
“ Caught on clips	“ Motor Failure				
Trajectory					
“ Straight-Up	“ Spinning				
“ Corkscrew	“ Non-vertical				
“ Into the wind	“ Unstable				
Launch Notes		Lessons Learned		Flight Grade	
Our first attempt with the First Fire igniter was a failure. We switched to the Copper igniter and the launch was a success. No damage was done and we set the Arcas altitude record.		We were very fortunate to have a successful flight! We realized just how much the wind can affect the rocket's landing. The First Fire igniter seemed to be a little more unreliable than the Copper igniter, but that was an easy fix. Lastly, the new Altimeter 2 worked wonderfully!		“ Excellent	
				“ Good	
				“ Poor	
				Rocket Project Suggestions	
				Continue using social media. Videos are really fascinating for students who are not in Physics. Possibly tweet some of the altitude records and other data.	