Rocket Data Sheet and Launch Record

Rocket Description

Owner:	Mr Duhrkopf
Rocket Name:	Big Sharky
Type:	Modelrockets.us
Length: (inches)	22.625 in
Diameter: (inches)	1.645 in
Fins:	3
Listed Mass: (g)	85 g
Date of Construction:	9/4/2012

Recommended Motors: (C only)

C6-3, C6-5

Center Gravity(CG):	13.77 in from nose
Center Pressure(CP):	
Estimated Cd:	0.5
Predicted Altitude:	375 Ft

Prediction Notes

Prediction spreadsheet says 530 ft but last years launches were not even close to that. Last year was a bit windy so I am going with a value just a little higher.

Launch Information

Date:	10/7/2013
Time of Launch:	4th period
Location:	200yd marker
Rocket Mass:	83.1 g
Motor:	C6-5
Motor Mass:	25.1g
Altimeter Mass:	6.7g
Liftoff Mass:	115.8g
Wind Direction:	West
Wind Speed:	10 mph
Igniter:	Estes
No. of tries to ignite:	1

Ignition

¨ Successfull	¨ Blow Out
¨ Caught on clips	¨ Motor Failure

Trajectory

¨ Straight-Up	¨ Spinning
¨ Corkscrew	¨ Non-vertical
¨ Into the wind	¨ Unstable

Launch Notes

Brooke had to make a 2nd attempt to light the igniter. Rocket was setup to launch straight up. Major trajectory into the wind, parabolic

Recovery Information

Ejection Occurred

¨ During Ascent	¨ At Apogee
¨ After Apogee	¨ During Descent
¨ Ejection Failure	

Parachute Deployment

¨ Full	¨ Partial
¨ Did not deploy	

Parachute Descent

¨ Stable Descent	¨ Tangled lines
¨ Some swaying	¨ Sprial descent

Reason for Recovery Failure

¨ Damaged Chute
¨ Tight Upper Body tube
¨ Improper setup
¨ Chute Separated
¨ Motor Ejected
¨ Unplanned Separation
¨ Other _Shroud line broke loose_

Descent Speed

¨ Slow	¨ Average speed
¨ Very fast	¨ Ballistic

Landing

¨ Soft	¨ Water
¨ Tree	¨ Caught on Wire
¨ Hard	¨ Crash
¨ Landed on Building	

Recovery

¨ Full Recovery	¨ Lost
¨ Not Recoverable	¨ Parts lost

Distance & Direction from pad:

20 yd west

Recovery Notes

One shroud was detached and chute did not fully deploy. Ejection was well after apogee due to the parabolic trajectory. Descent speed was faster than normal but not unsafe

Lessons Learned

When it is windy setup the launchpad to go with the wind not into the wind. Make sure and keep button pushed during the ignition process. Wind is a major factor in how high the rocket will go. Change your prediction accordingly. 10 mph probably made 75-100 feet less. Factory stickers are not very good and are different colors. Nose cone paint chips easily.

Altimeter Two Data

Apogee Altitude:	329 Ft
Top Speed:	86 mph
Burn Time (burn):	2.0 s
Peak Acc (Pacc):	10.4
Avg Acc (Aacc):	1.9
Coast Apogee (C2AP):	4.2 s
Apogee to Eject (AP2E):	-0.2 s
Ejection Alt. (EALt):	304 Ft
Descent Speed (dESc):	13 mph
Flight Duration (durA):	20.8 s

Altimeter Data Analysis

The altitude is consistent for what we say happen. The apogee to ejection is way off though. Visually the ejection was well after apogee but the altimeter says it happen before. Burn time is consistent for data of C6-5. Delay time is a little shorter than 5 seconds. Ejection altitude seems to be a little higher than what was witnessed during the flight. My prediction was not even close to what the rocket reached due to the wind creating a parabolic trajectory.

Post Launch Information

Rocket Damage

¨ No Damage
¨ Scuffed Paint
¨ Launch Lugs
¨ Engine Stuck
¨ Fins Damaged

Describe any damage to the rocket:

Shroud line came loose. Fixed easily and rocket is ready for next flight

Flight Grade

¨ Excellent
¨ Good
¨ Poor

Rocket Project Suggestions

Bring the teacher Milk Duds.