



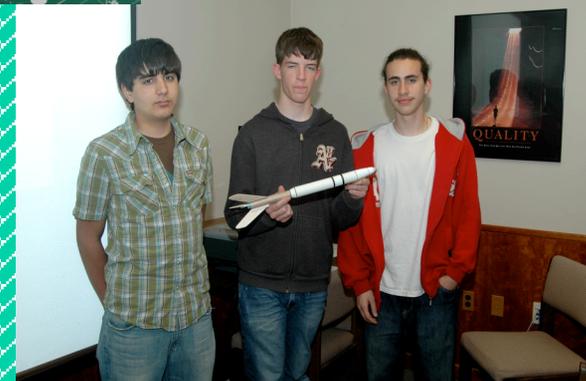
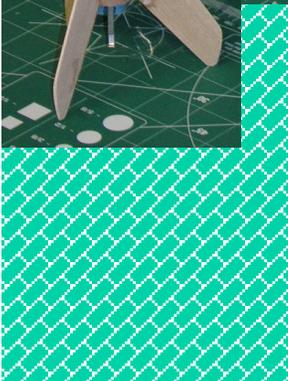
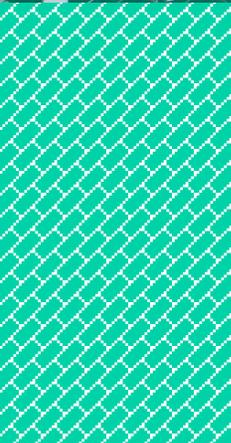
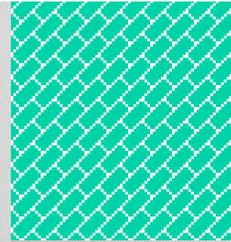
NASA Aeronautics Post 630 Year in Review



Advisor Comments



- Melted 6 parachutes performed 10 successful launches ! (3 Altimeter data points)
- All rockets recovered
- All of them flew straight !
- Congratulation to all for job well done!





Explorers Post 630 presents ACQUANTICS



Demo Rocket Launch

- Because not everyone in the group had experience with model rockets, our post conducted it's own demonstration before we began the hard core number crunching.





We had a good time and were able to practice gathering launch data.



The Islands



Icing Research Tunnel

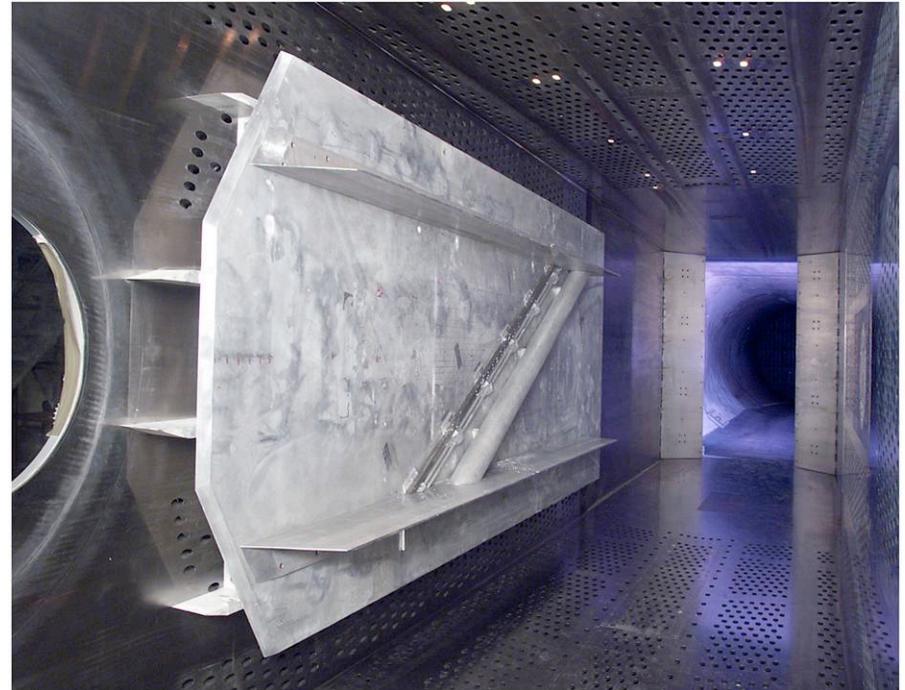




8x6 Supersonic Tunnel (Shuttle return to flight Experiment)

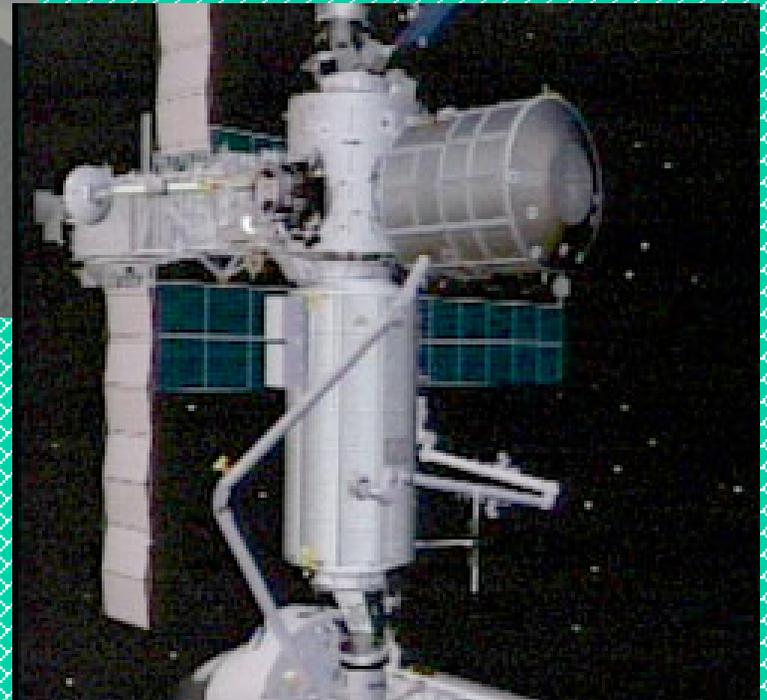


NASA
C-2003-1347





The Groove Lab





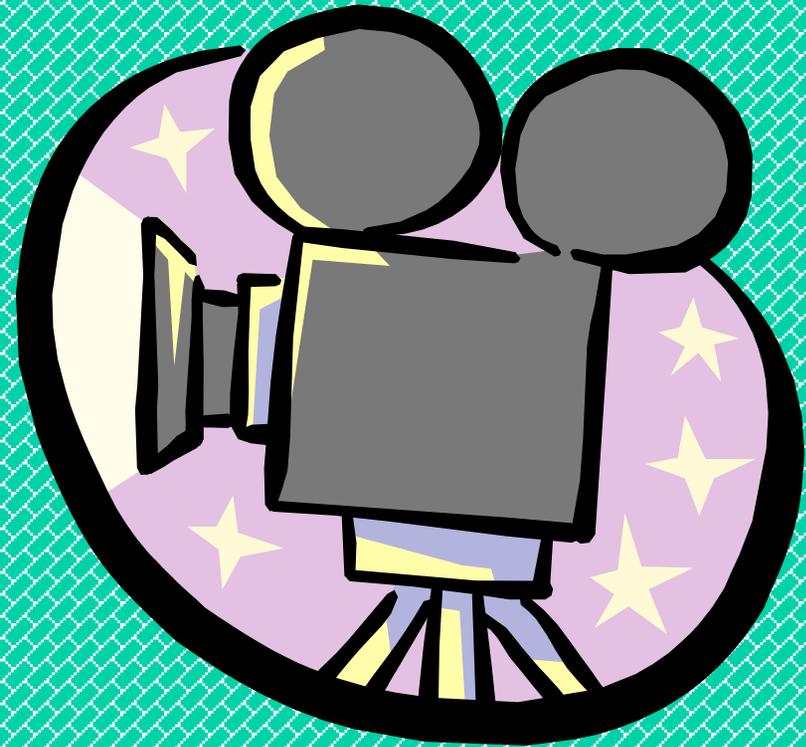
The NASA Hangar





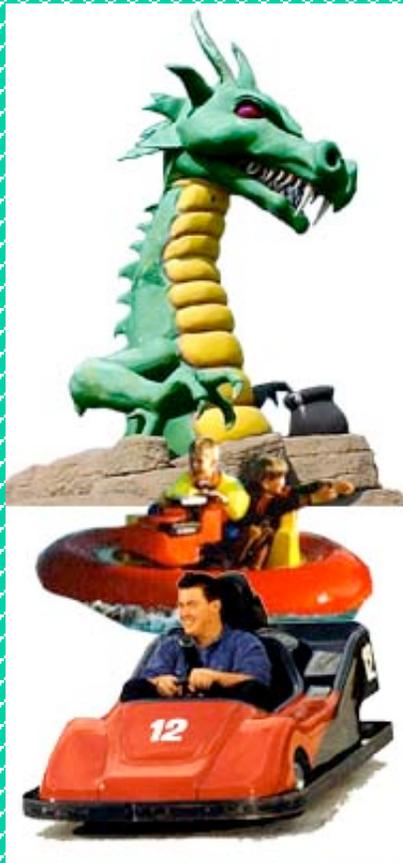
Christmas Party

- For our Christmas Party on December 13, 2005, we:
- Ate pizza
- Watched the movie Spaceballs
- Played cards





Goodtimes Fun Activity



- With the balloon-satellite post, we went to Goodtimes Amusement Park in Avon Ohio.
- In our evening of fun, we rode the go-karts, played laser tag, went on the bumper boats, and played miniature golf.



Designing our Rockets

- From January to February, our rocket groups worked on our preliminary design reviews of our early designs of our rockets.



our rockets' tentative designs, estimating the size and weight of the rockets, and estimating how high our rockets would fly.



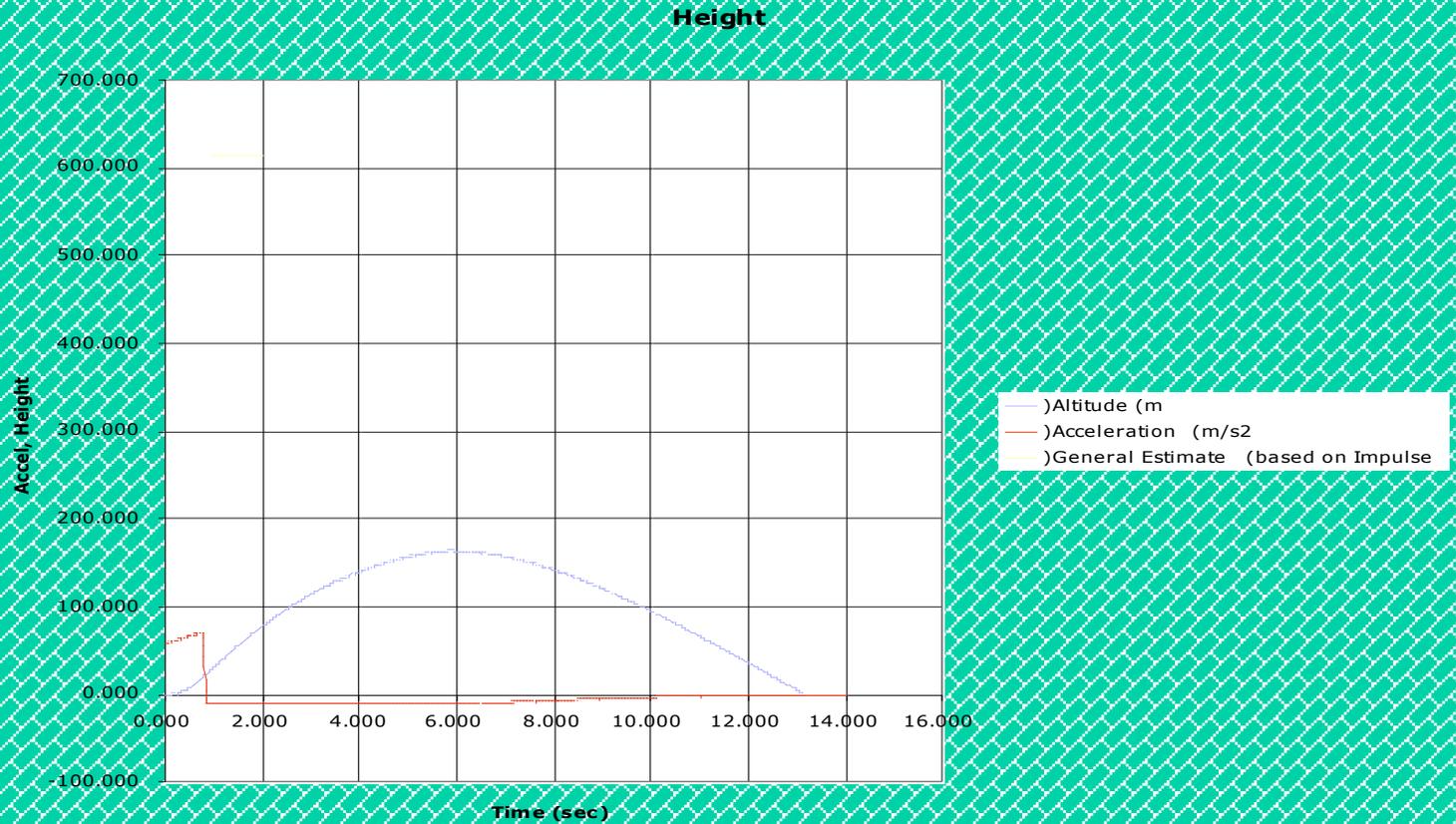
Service Project



- For our service project, we helped load and pack boxes of food for families at the Well-Help Inc. Food Pantry in Wellington, Ohio.



Typical Computer Model





Building the Rockets

- From our designs and estimates in the preliminary design review, we then proceeded to build our rockets.
- Some groups were able to build their rockets based on their preliminary designs, but other groups had to change their designs.



Building the Rockets cont.

- After the rockets were built, each group weighed and measured their rocket and prepared their final design reviews
- In the final design reviews, each group presented their rocket, and gave the final calculations for height, mass, center of pressure and gravity locations, and the projected altitude their rocket would fly.



Building the Rockets cont.





WYLTK Green Shoes

Alex Brown
Nikita Jackson
Emily Kollin



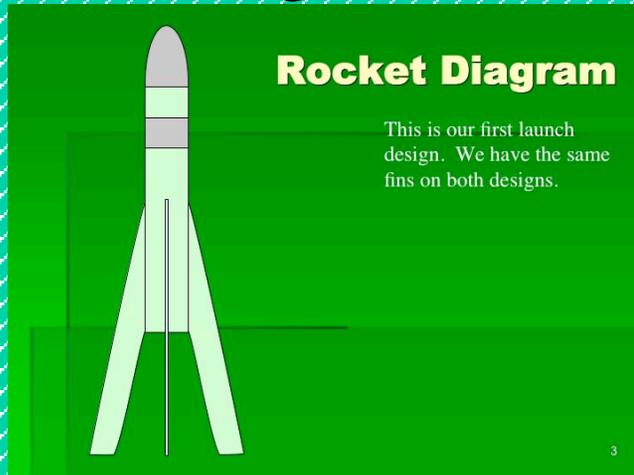


WYLTK

Final Design

Matches the design parameters

Green matches the presentation background (missing member wore green shoes)





WYLTK

- Initial design/built iteration
- Payload capability?
- Uncertainty about the design?
- Advisor guidance toward narrower body. (Less Drag?)





Rocket Power (Rock-a-ware)



ROCK-A-WARE

Rocket Power

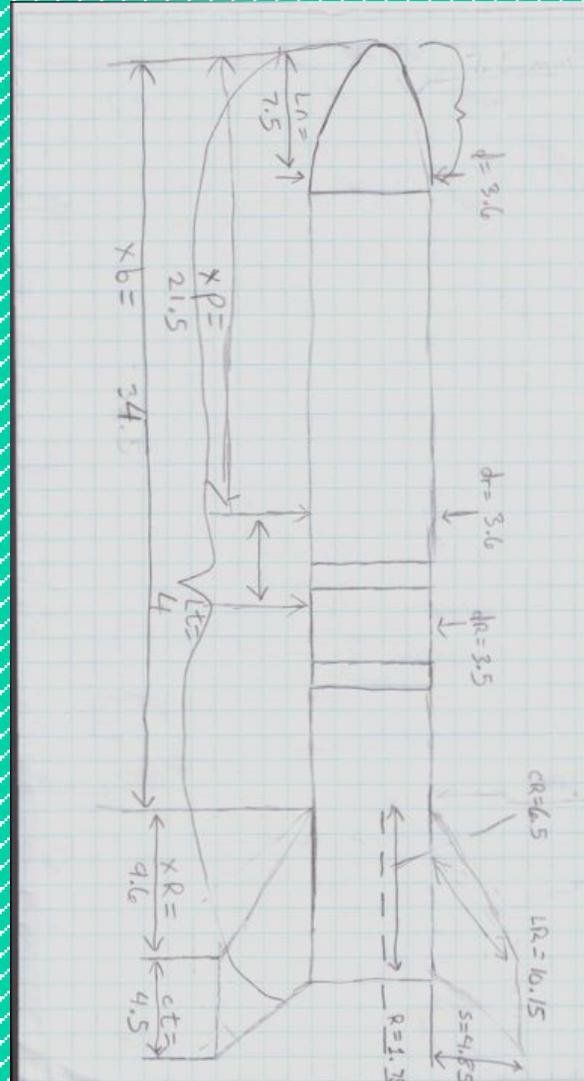
Cierra Kelly
Tyler Cullinan
Bertrand Hester
Al Franko





Rocket Power

- Designed by team and colored Cierra.
- Built in payload capability.
- Issues with building techniques.





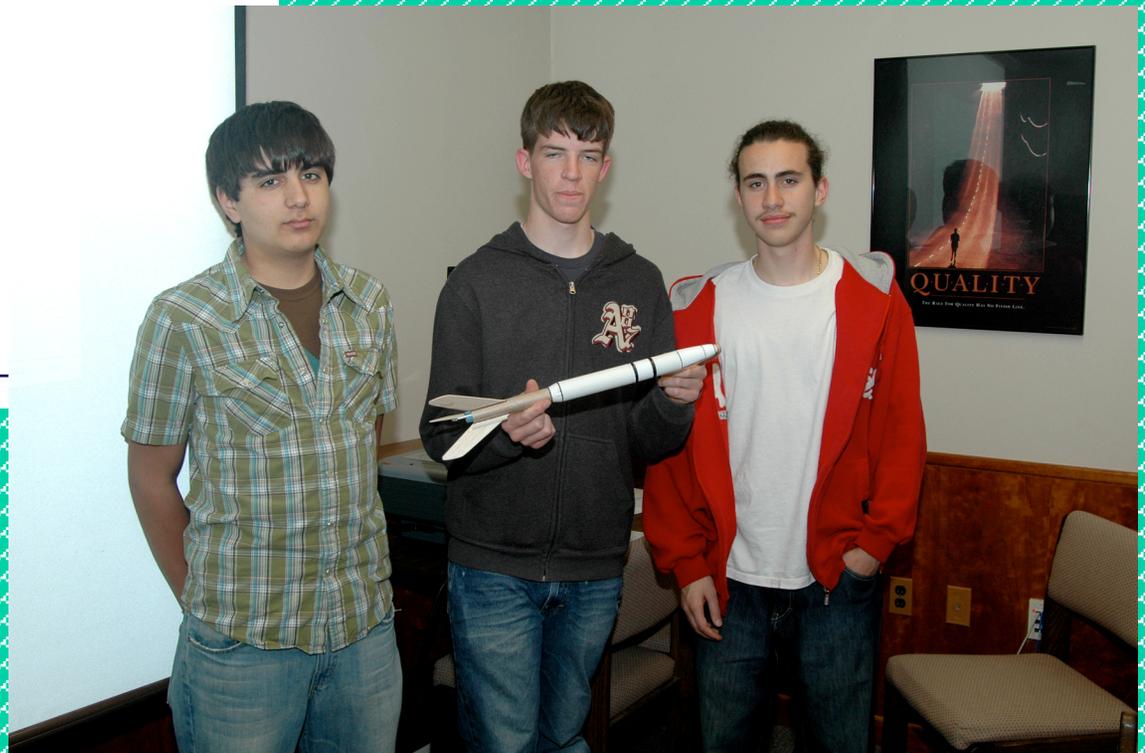
Silver Bullet

National Aeronautics and Space Administration



The Silver Bullet

Joseph Baz
Jake Del Valle
Mike Szabo





Silver Bullet

- No silver paint.
- Lost the advisor in the middle
- “unattempted excellence”
- Tapered body style.
 - Felt like having the design





Echo 419

National Aeronautics and Space Administration



Echo 419

Acme Inc.

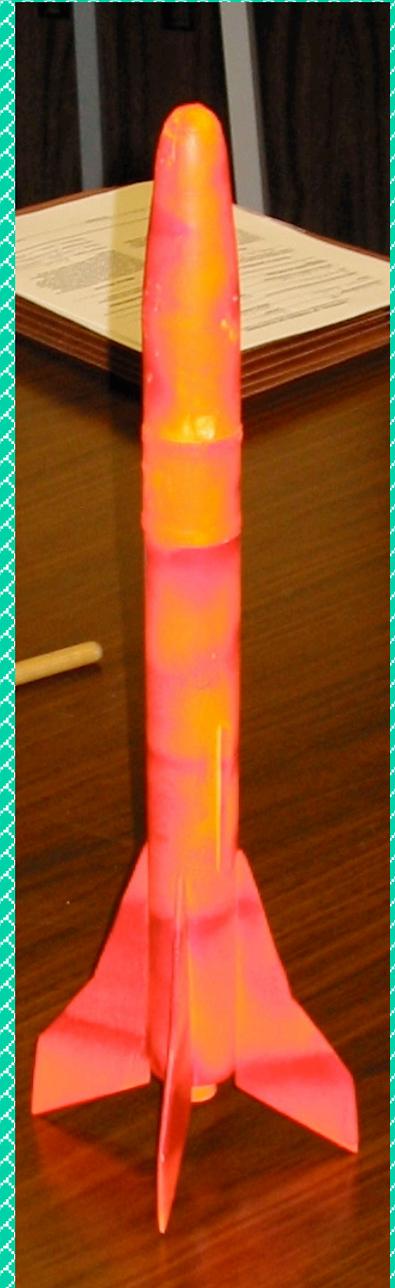
Anthony
Jim
Bart
David





Echo 419

- Original design is built
- “Orange is the fastest color”
- Thickest fin





Summary (Design vs. Actual)

Design		Predicted					Measured					
	length h motor (cm)	CG (in)	CG (cm)	CP (in)	CG (cm)	Weight (w/o motor)	Cg CG (in)	Cg (cm)	CP (in)	Cp (cm)	Weight (g w/o alt)	Weight (g)
WYLTK -1		5.2		3.4		90.8	3.4		5.38		69.6	
WYLTK -2	c6-5 25.4	5.7		4.2		62	3.3		1.78			69.8
Acme Inc (echo 419)	42		23		27		73.6	12.6		7.4		95
Silvet Bullet	C6-5 50		18.4		22.8	110	92	23.7		14.75		92
Rocket Power	40.5				32	70.4	41.8	17.5		19.5		88



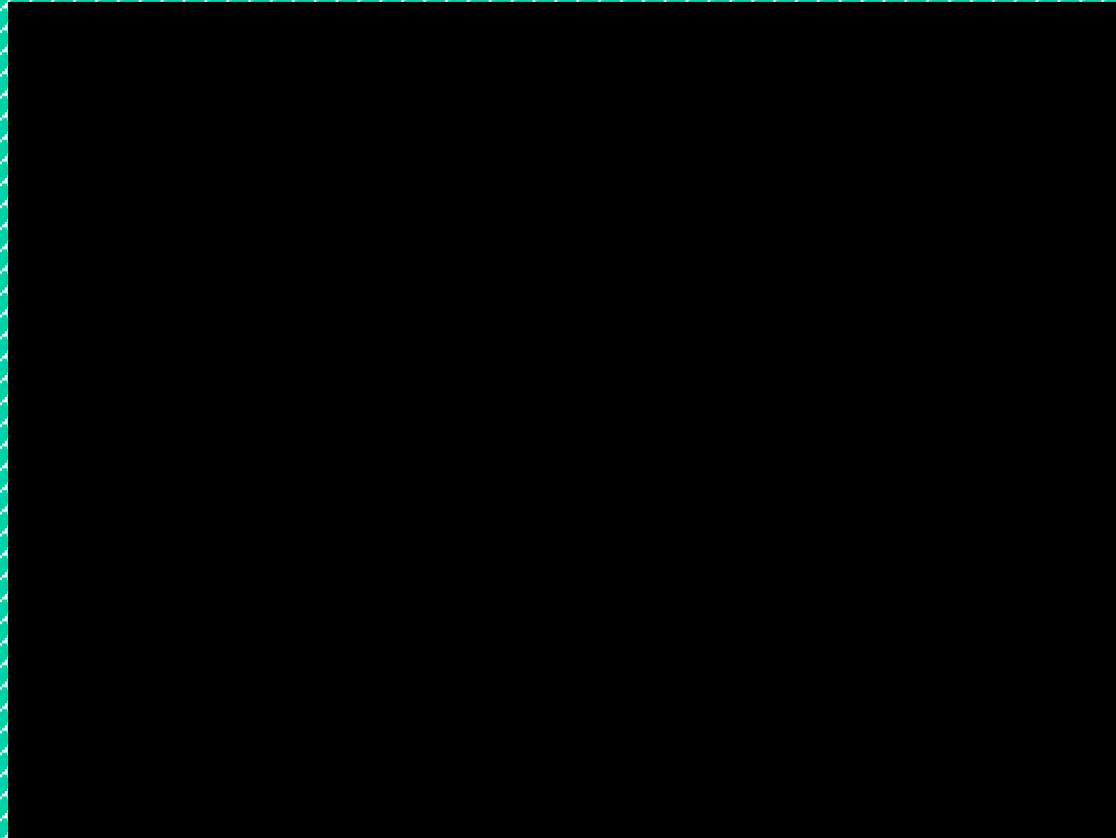
WYLK-2

- Longest time Aloft @ 79 sec Average.
- Eventually worked as designed. (2 parts to land)





WYLK-1





Silver Bullet

- Closest to original design Conditions





Silver Bullet





Rocket Power (Rock-a-ware)

- Highest altitude achieved (both measurements)





Rocket Power (Rock-a-ware)





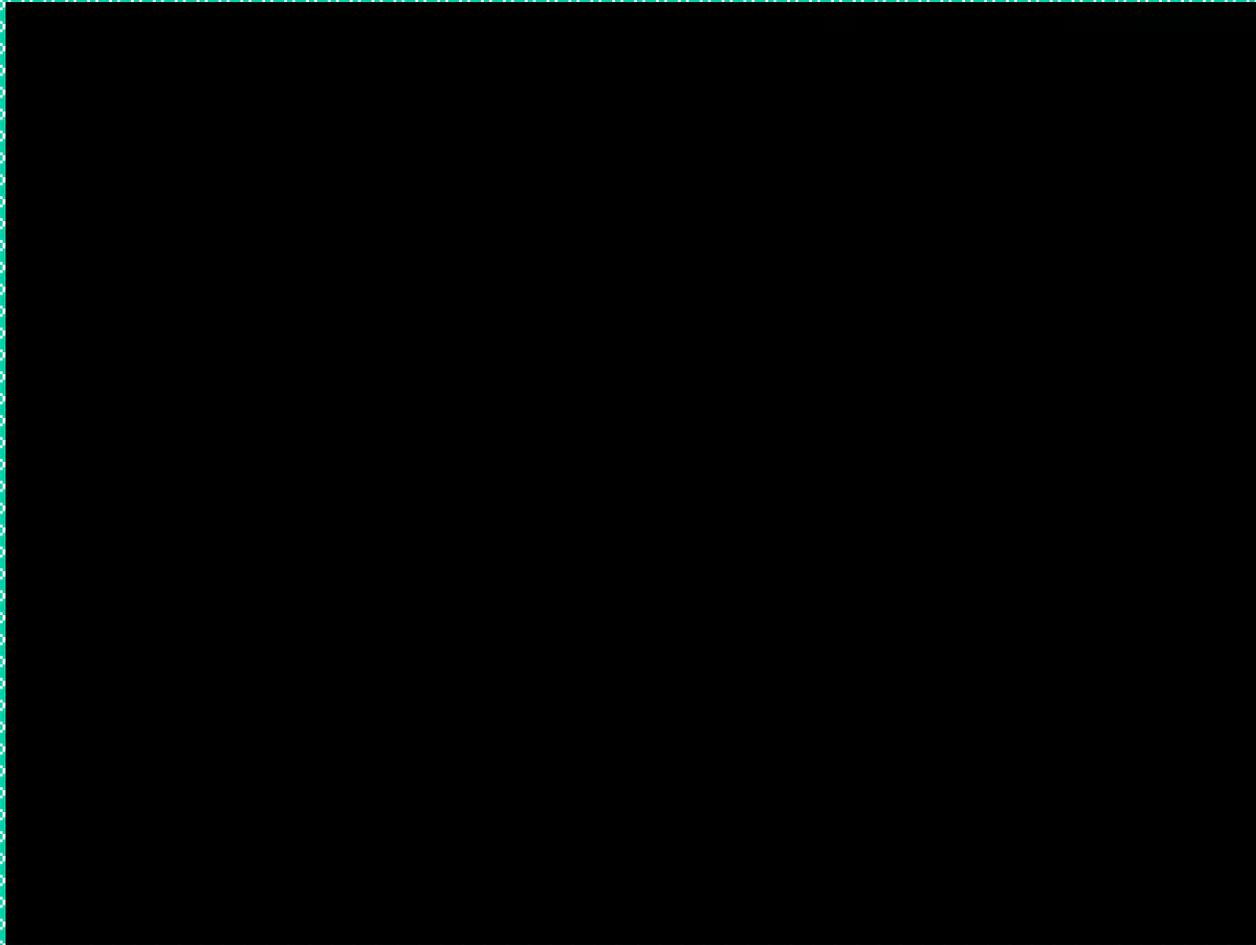
Echo 419

- Closest to the Design Prediction (227 ft vs. 210 ft and 26 sec vs. 28 sec)





Echo 419





Summary (Design vs. Actual)

Design		Predicted		Measured			Comment
motor	length (cm)	Altitude (ft)	Time	Altimeter	Calculated Altitude	Calculated Time	
WYRLRK -1		928.5	22	290	196.3	29	
"					280.6	28	
WYRLRK -2	c6-5	25.4	537	13	567.1	79	Longest time aloft
Acme Inc (echo 419)		42	227	28	569	56.5	Closeted to their design prediction
Silvet Bullet	C6-5	50	460	57		29	most accurate altitude prediction
Rocket Power		40.5	309	20	598	35	Highest recorded altitude
					158	30	