



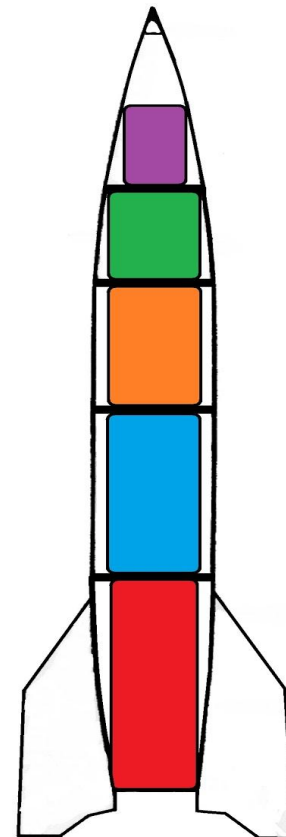
Solid Rocket Update

Presented By: Derek, Tony, & Zach

Update & Review

On Hand

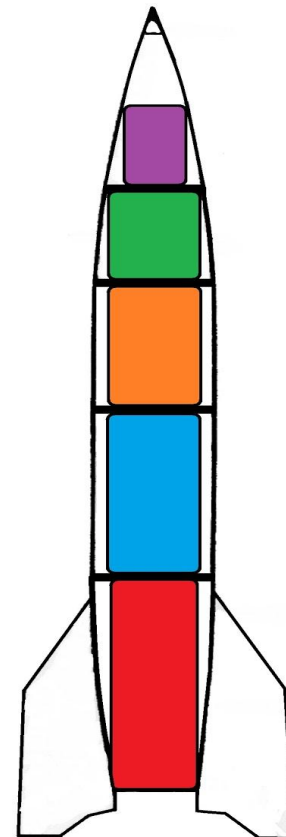
- Motor
 - Aerotech L2200G-P
- Casing
 - Apogee: Aluminum
- Igniters
 - First Fire Initiators



Update & Review

Ordered

- Fuselage
 - Blue Tube 5.5"
- Internal Structures
 - Electronics Bay
 - Centering Rings
- Nose Cone
 - Tangent ogive precision molded plastic
- Recovery System
 - Co2 Deployment System
 - Drogue/ Main Chute
- Fins
 - Custom made alwaysreadyrocketry



Update & Review

Changes

96" elliptical chute has 5 week delay

84" Iris Ultra Parachutes can be shipped within a week

Rated for 38lb @ 20fps

Cost: \$333.00

C_d : 2.2



www.fruitychutes.com

Fins

Most common fin shapes

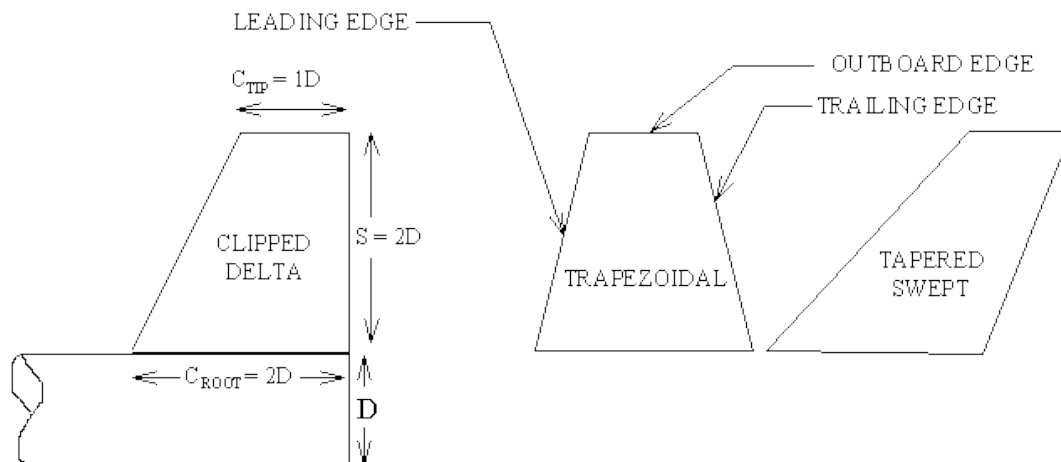
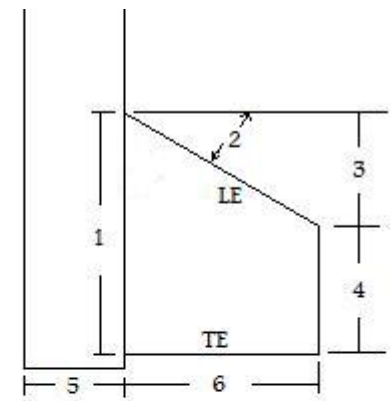


FIGURE 3 -- FIN PLANFORMS

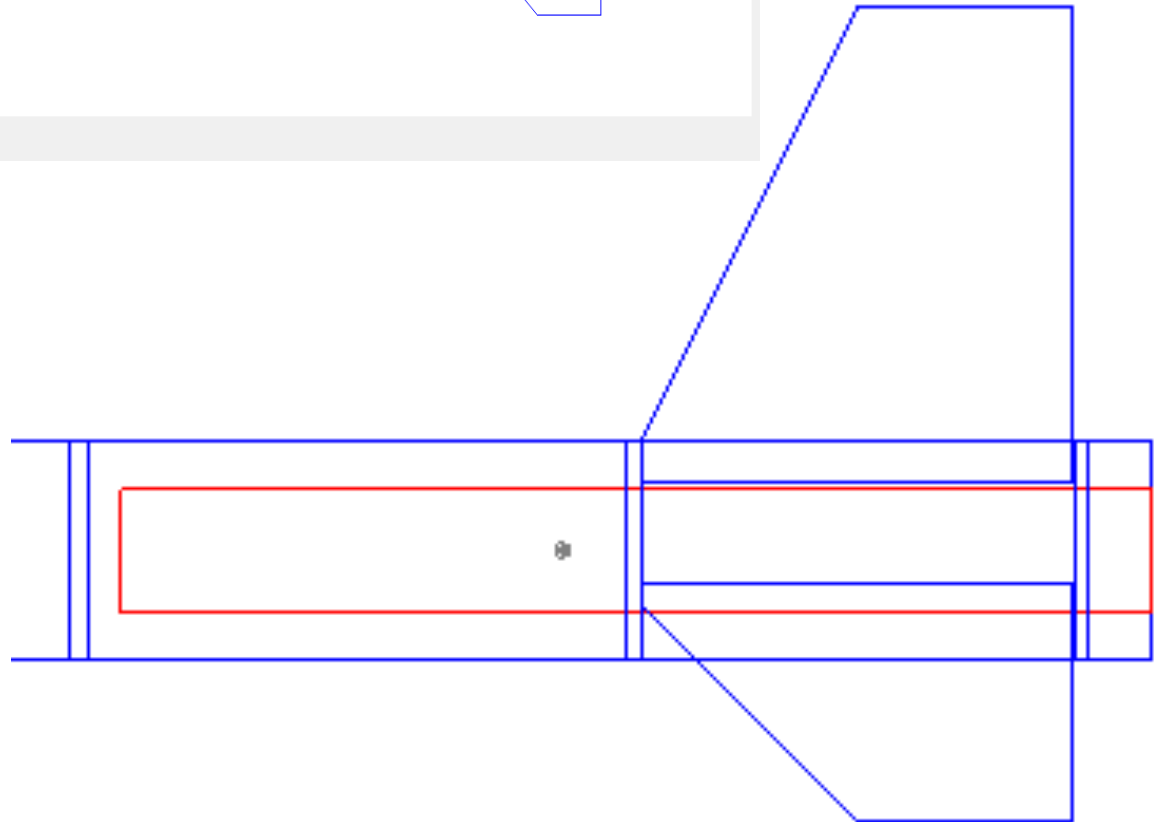
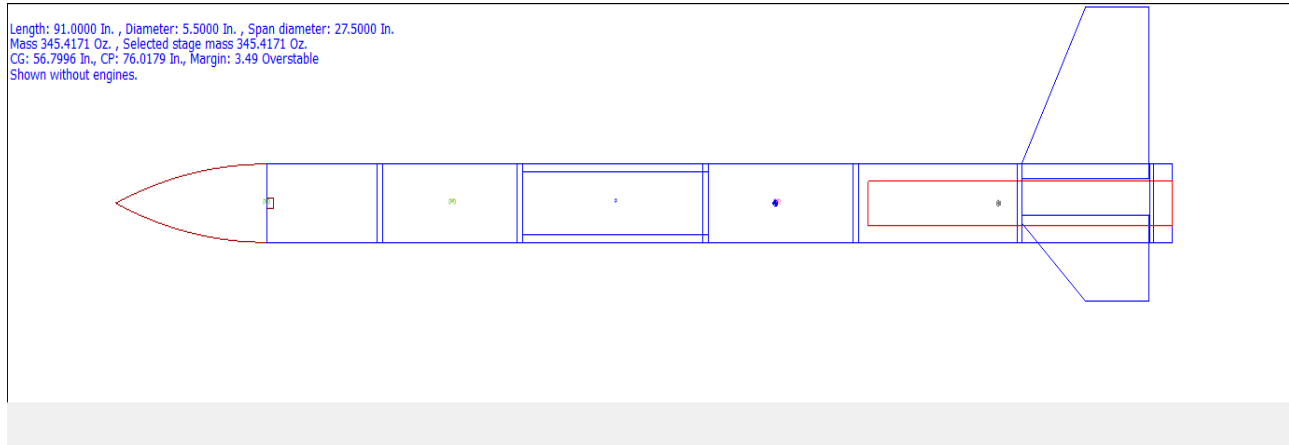


1. Root Chord
2. Sweep Angle
3. Sweep Length
4. Tip Chord
5. Body Tube Diameter
6. Semi Span
- LE Leading edge
- TE Trailing Edge

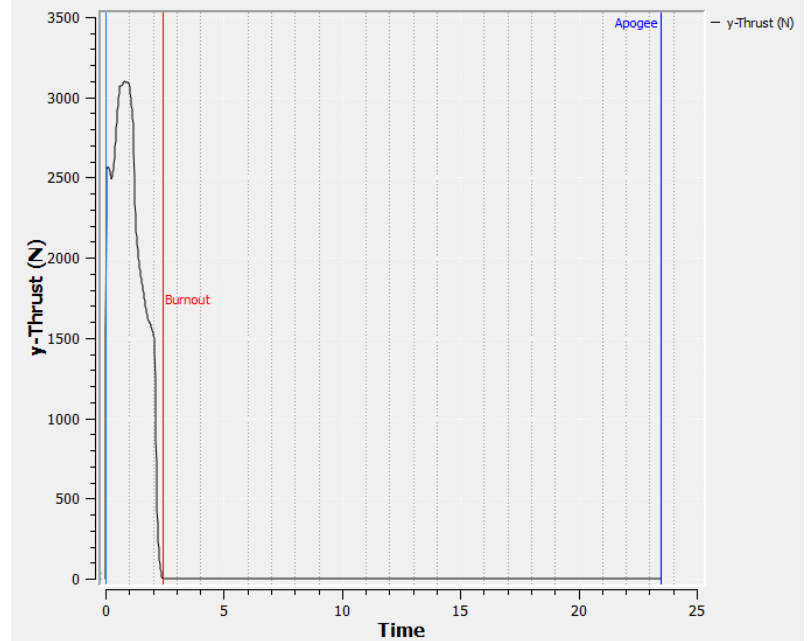
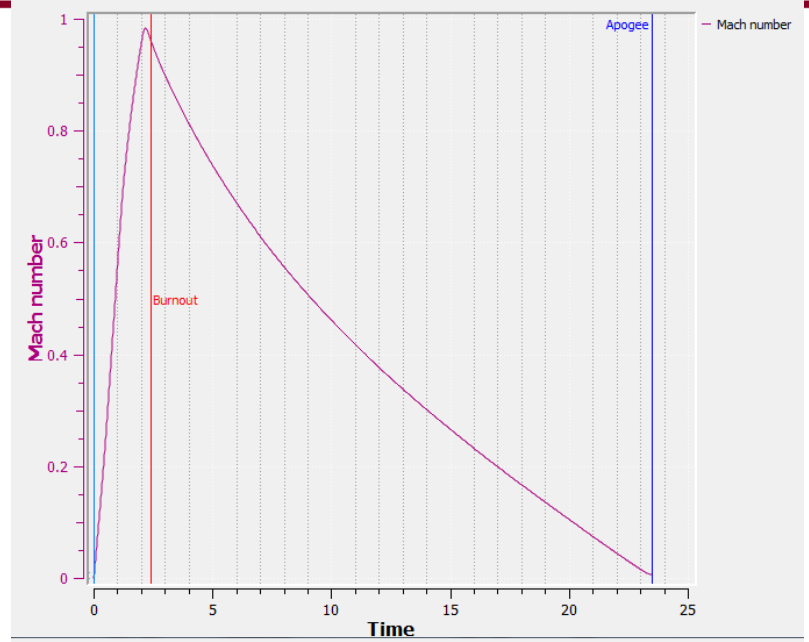
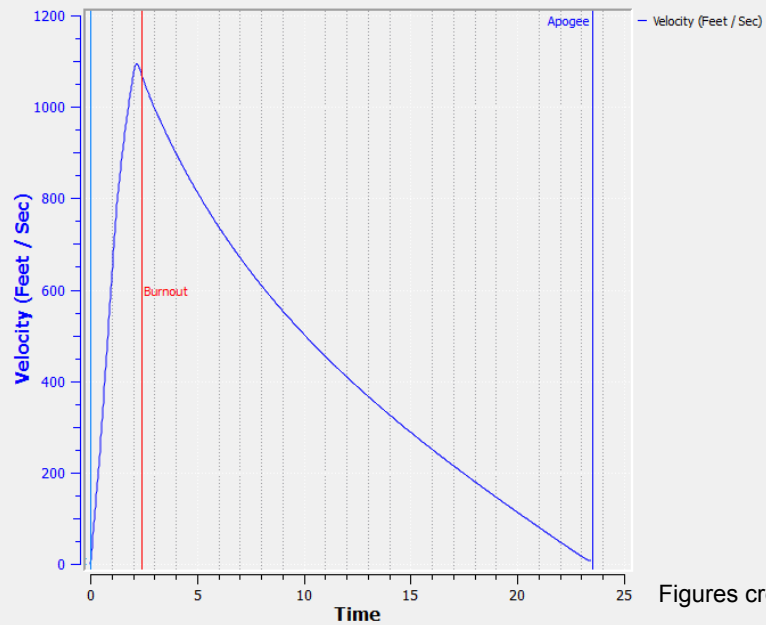
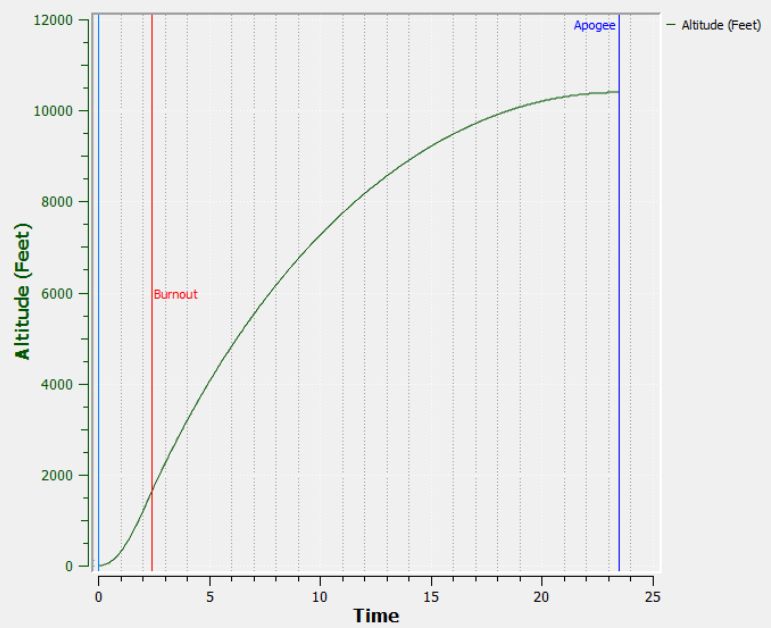
Fin Optimization

	3 Fin Tests					4 Fin Tests			
	9 mm Thickness			12 mm Thickness		12 mm Thickness	9 mm Thickness	6 mm Thickness	
	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8	
Root Chord (in)	5	11	10	11	11	11	11	11	8.5
Tip chord (in)	1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.41
Sweep Length (in)	3.5	9	9	5.5	5.5	5.5	5.5	5.5	
Semi span (in)	5	11	10	11	11	11	11	11	
Altitude (ft):	11,879.66	10430.35	10,664.27	10,432.22	10,266.27	9,612.83	9,840.16	10,025	10.53
Max Velocity (ft/s):	1185.93	1103.16	1116.94	1103.17	1077.94	1038.69	1071.18	1104.06	6.63
Time to Apogee (s):	25.12	23.48	23.75	23.48	23.39	22.63	22.77	22.85	6

Fin Optimization



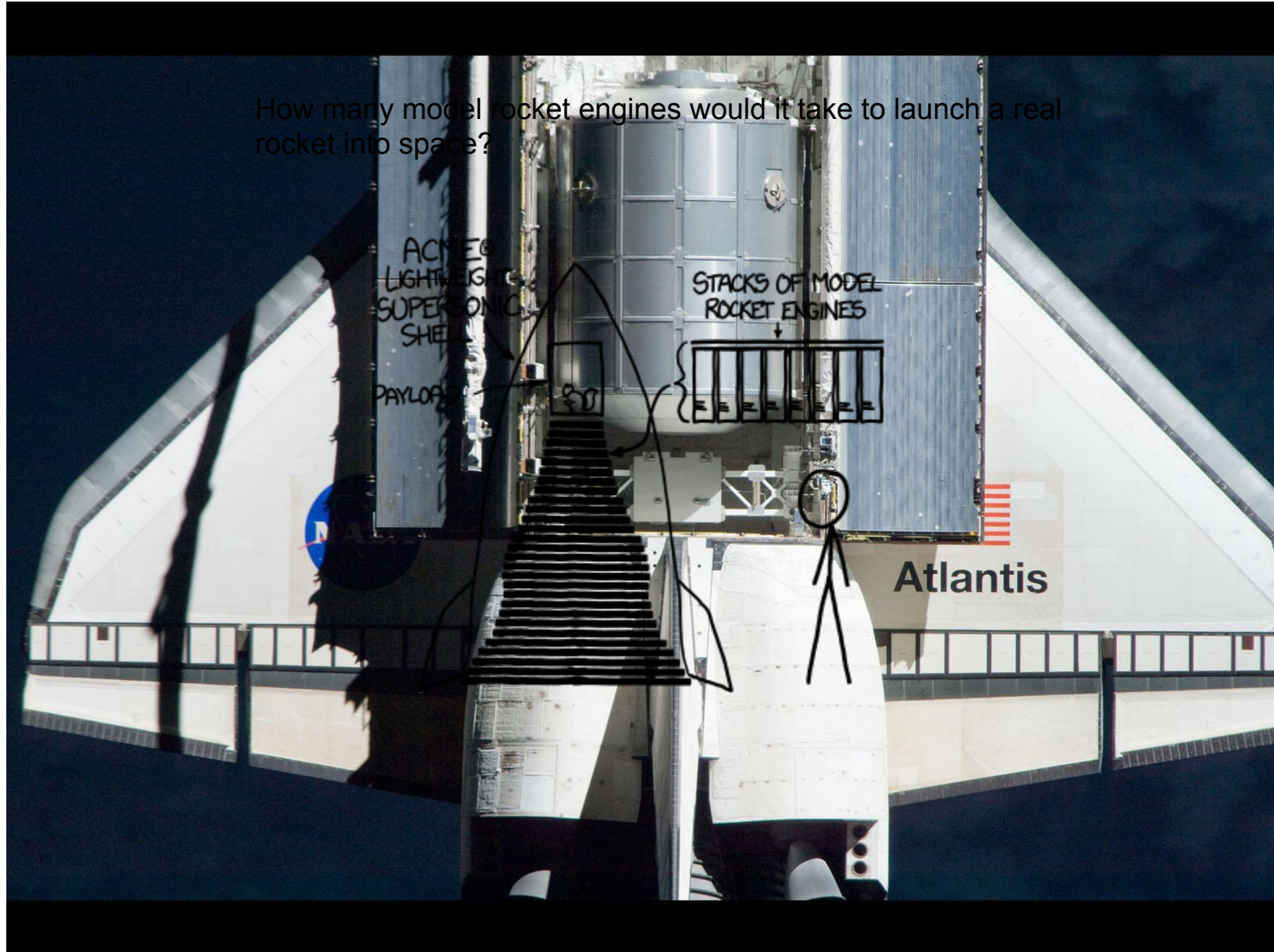
RockSim



Figures created with Rocksim

Lets talk payload!

How many model rocket engines would it take to launch a real rocket into space?



Test Plan & Safety

- Use safety procedures outlined by Hybrid team
- Additional changes:
 - Rocket Motor grain handling
 - Initiator handling
- Testing Stages
 - Test a motor using the Hybrid team test stand
 - Test recovery system
 - Launch our rocket



AeroTech



PARACHUTE OPENING WITH CO2 CAPSULE

MMX Rocket



fiveprime.org

Action Plan & Next Steps

- Get Purchase Orders Approved & Processed 4/10
- Gather All Materials & Begin Assembly 4/20
- Complete Assembly 4/27
- Begin Testing 4/27
- LAUNCH ROCKET!!!!

Poster Draft
