

Project 4: Materials Improvements in Firearms Suppressor Design

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Objective

Analyze and explore alternative methods to create a proof-of-concept for a hearing-safe and economical suppressor that employs an expandable outer sleeve and exhaust ports.

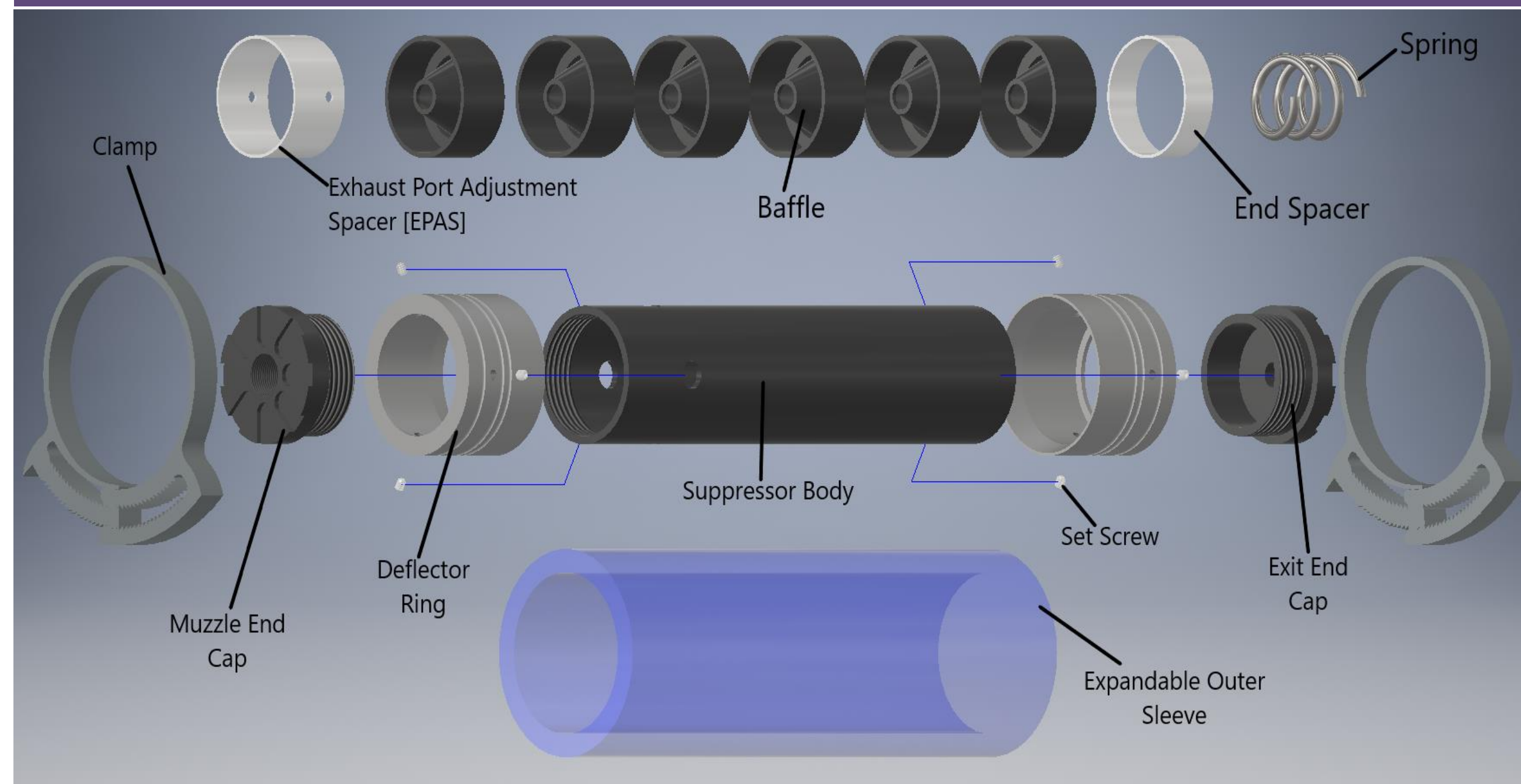
Background

- Lack of Innovation in suppressor design
- Possibility of Federal deregulation
- Benefits
 - Attenuate Sound
 - Recoil Reduction
 - Flash Suppression

Functional Requirements

Sound	Below 140dB
Safe	Must not endanger the shooter
Durable	Sleeve lifecycle of 50 shots
Modular	modularity

Prototype Design



Manufacturing Results



Suppressor with Deflector Rings



Sleeves and Molds

SC40 with MCF reinforcements has currently sustained 61+ shots with no failure

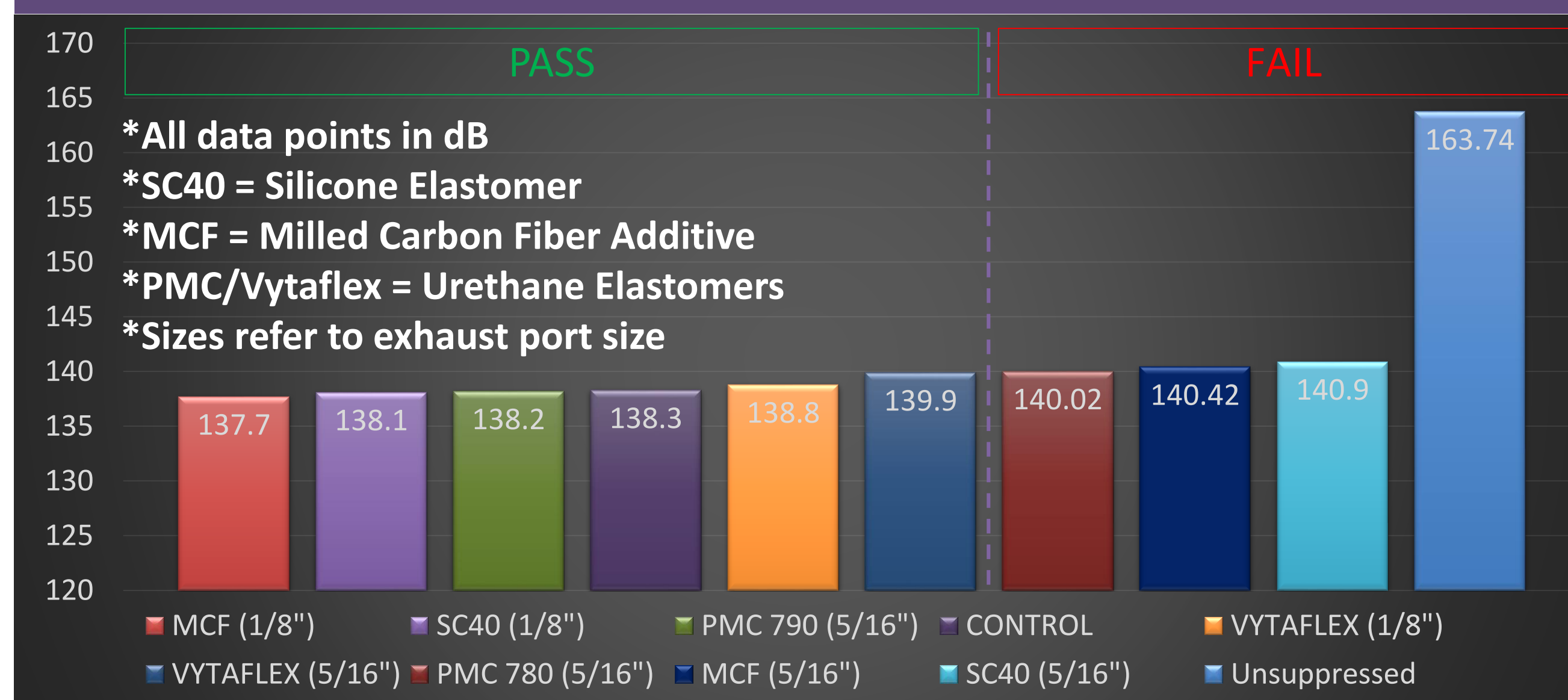
Testing Equipment

- Sound Meter (Larson Davis LxT)
- Thermal FLIR (General IRT 207)
- Sony RX 100V Camera
- ASTM Type V Tensile Test
- Barometer
- Anemometer
- Hygrometer
- Thermometer

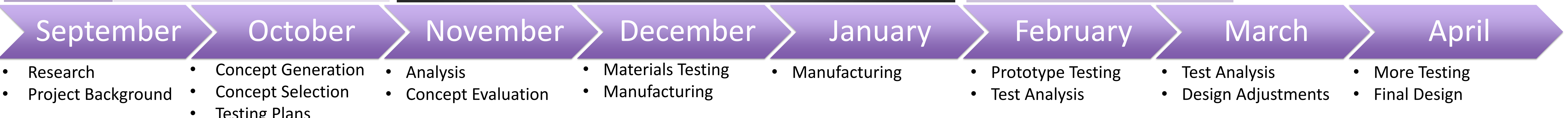
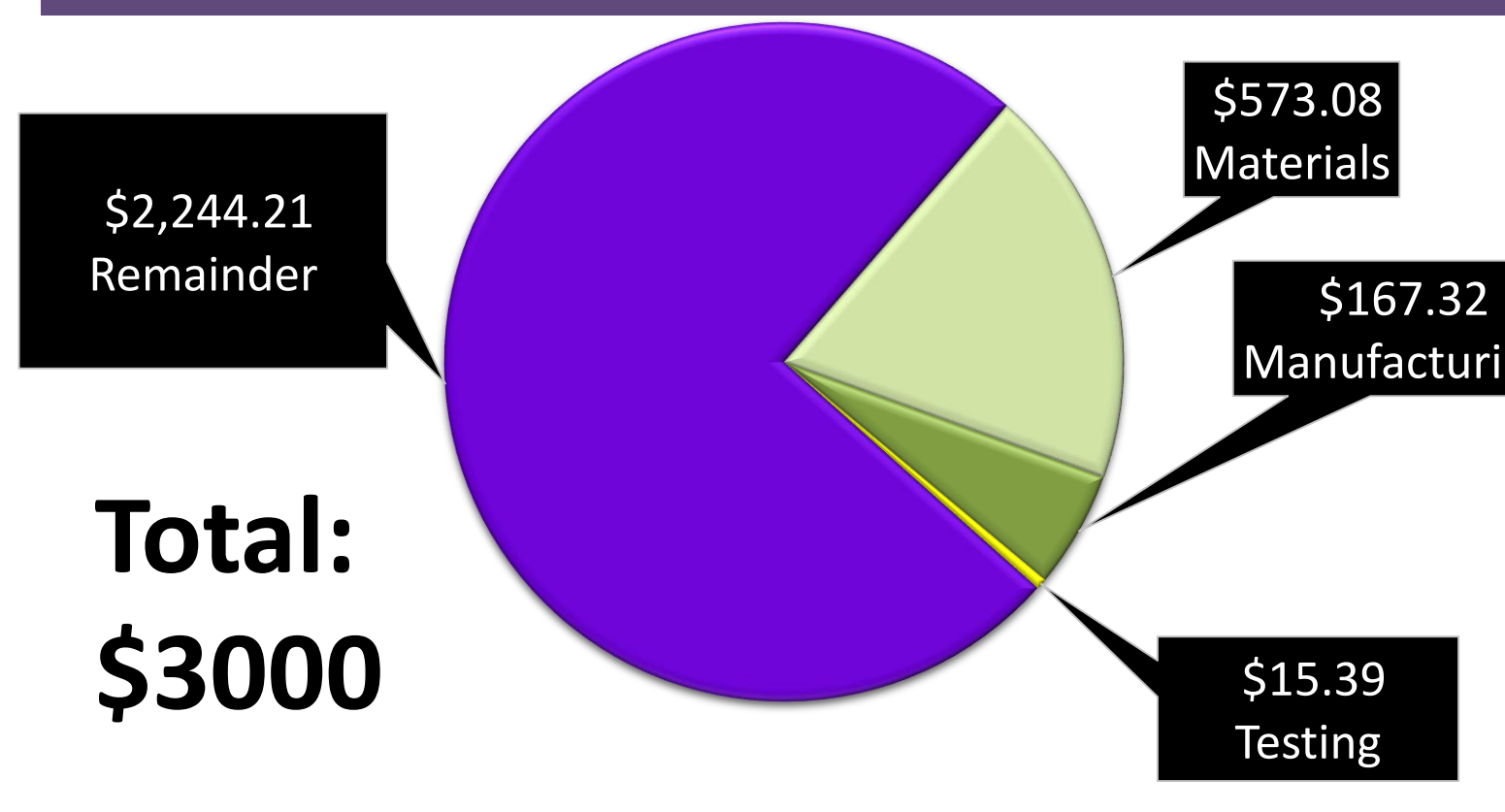
Safety Considerations

- Hoop Stress Failure
- Stream Impact Failure
- Standard Firearm Safety
- Lab Safety Regulations
- High Temperatures
- High Pressures
- Ear and Eye Protection

Audio Results



Budget



Sponsors: Brad Gilpin & Cleve Fair

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