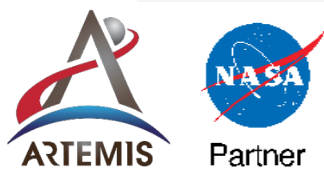




First Nations Launch 2023 Build and Assembly Webinar

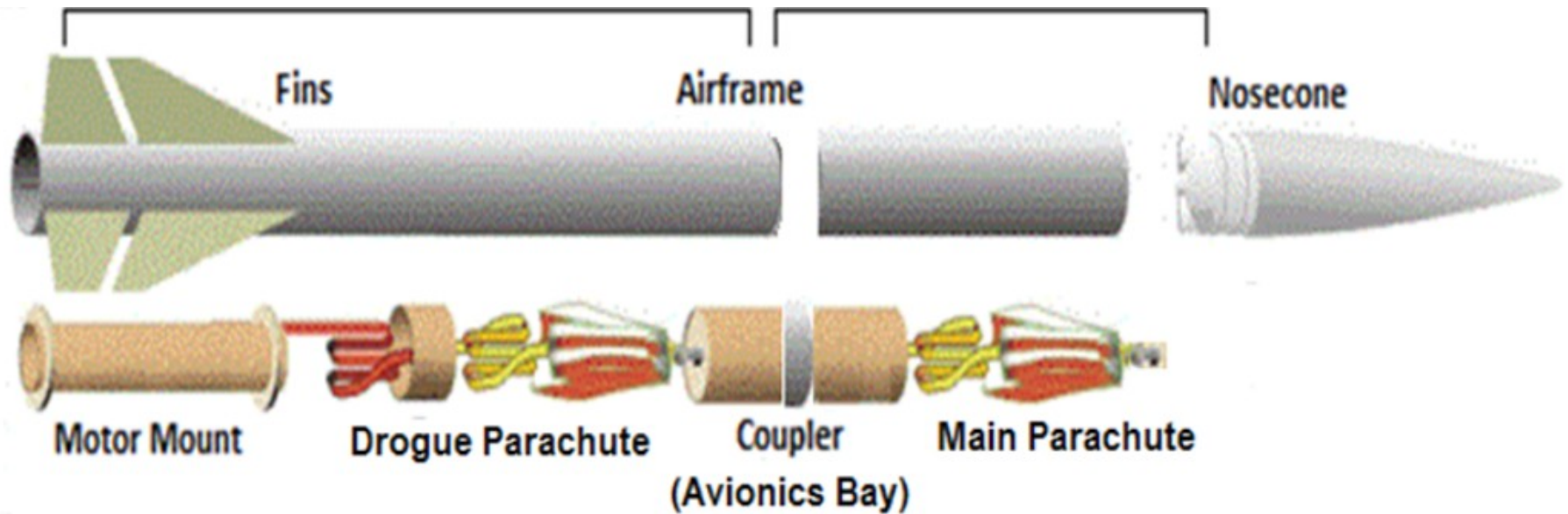
Adrian Guither
December 13th, 2022



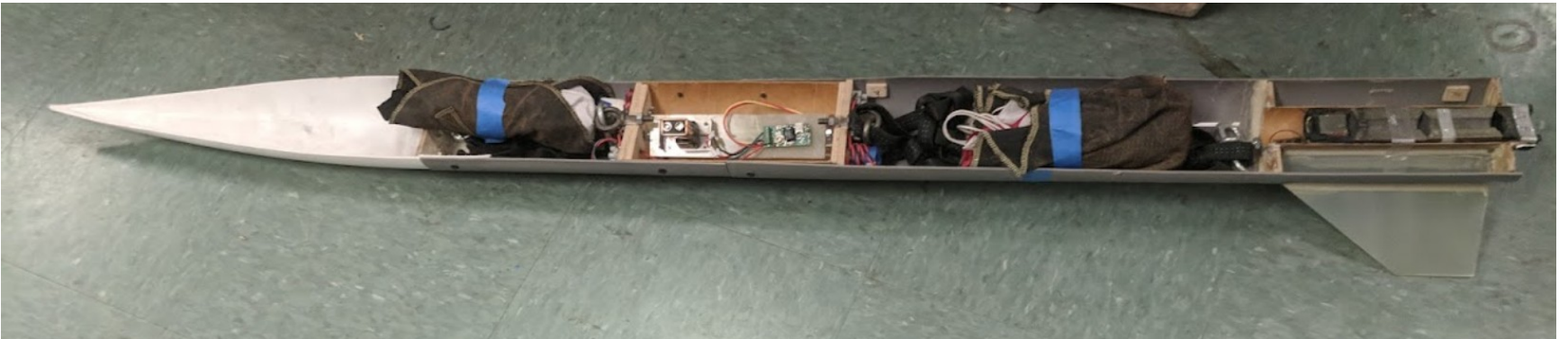
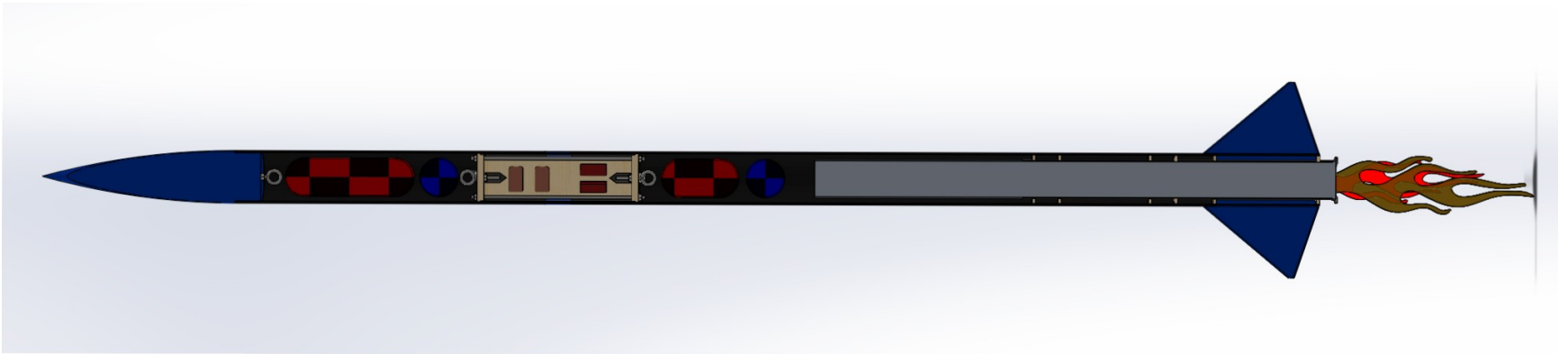
The material contained in this document is based upon work supported by a National Aeronautics and Space Administration (NASA) grant or cooperative agreement. Any opinions, findings, conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of NASA.



Overview



Cutaway View



Bonding Components

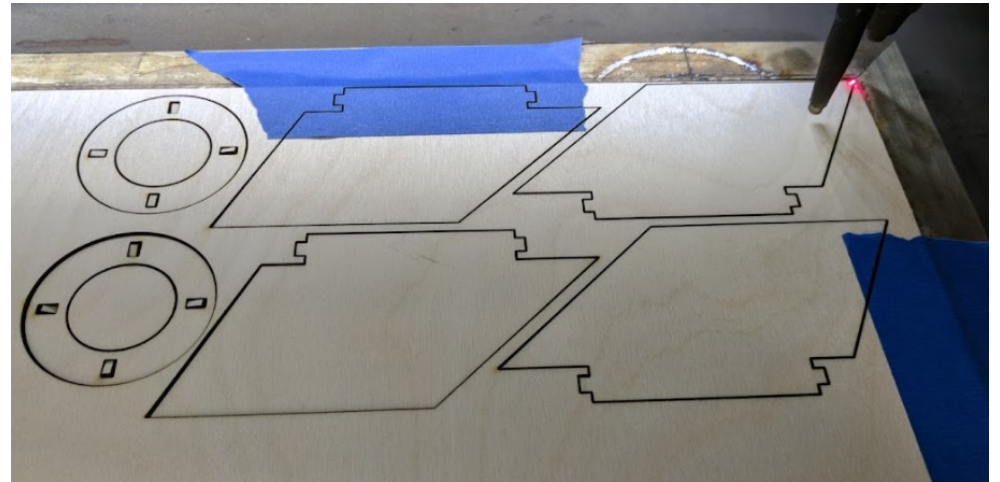
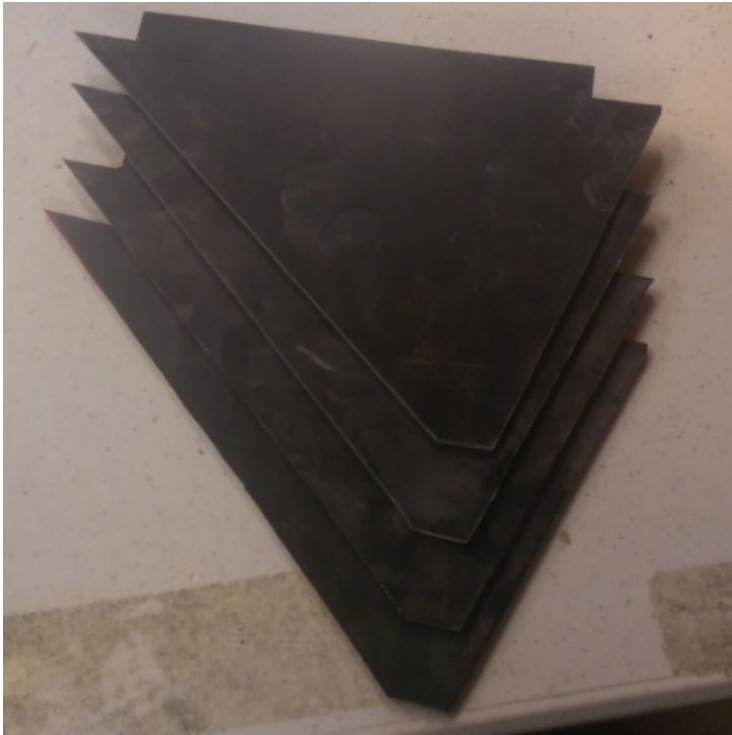
- Use the right adhesive
 - Wood Glue
 - CA (Super Glue)
 - Structural Epoxy
 - Laminating Epoxy
- Proper surface prep
 - Remove glassine layer from cardboard tubes
 - Surface free of grease and oil
 - Light sanding
 - Clean with IPA/Acetone



Fin Can



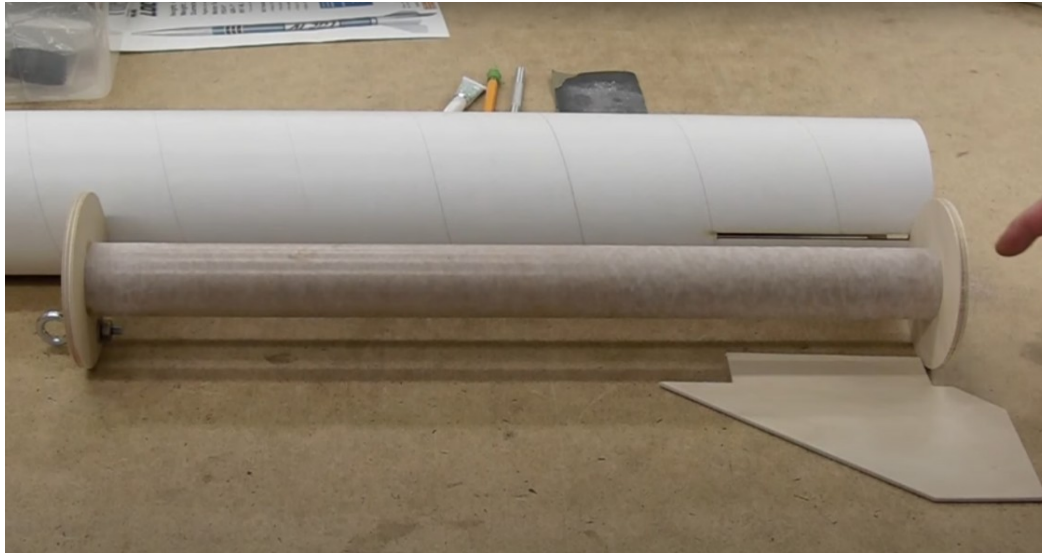
Cutting flat components



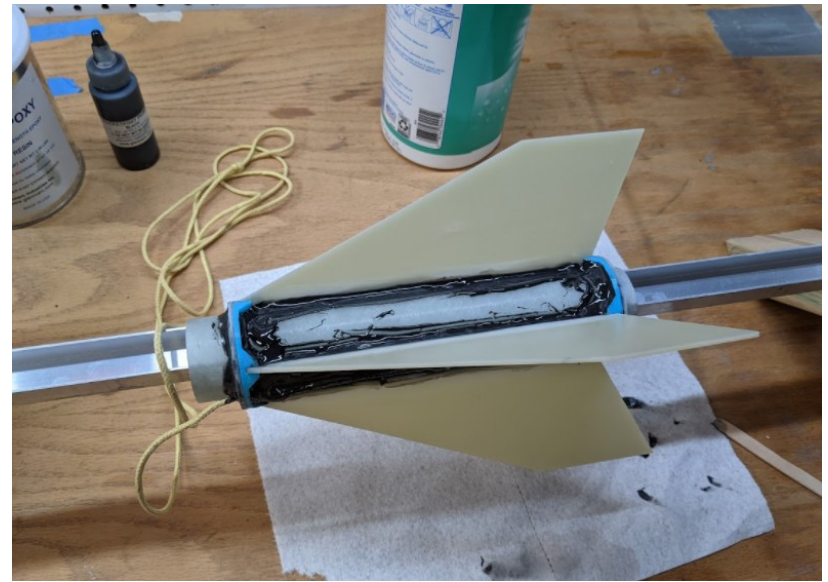
Fin Slots



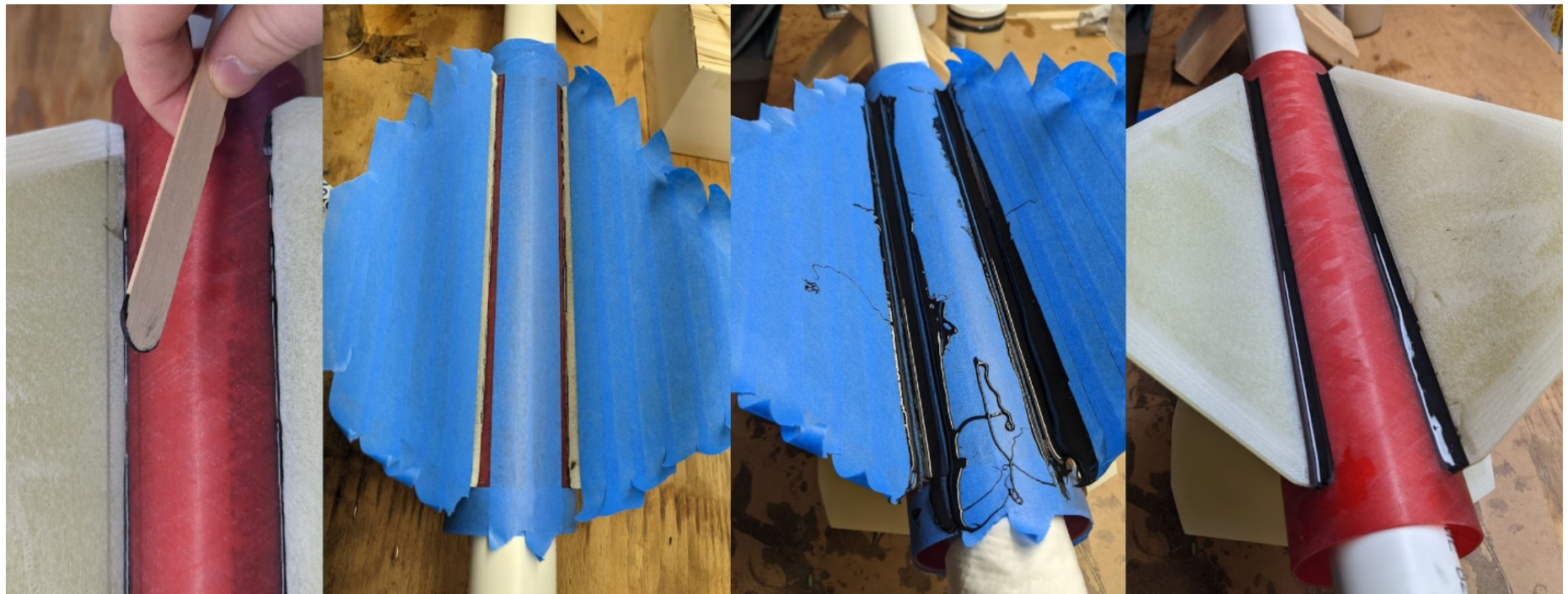
Motor Mount Assembly



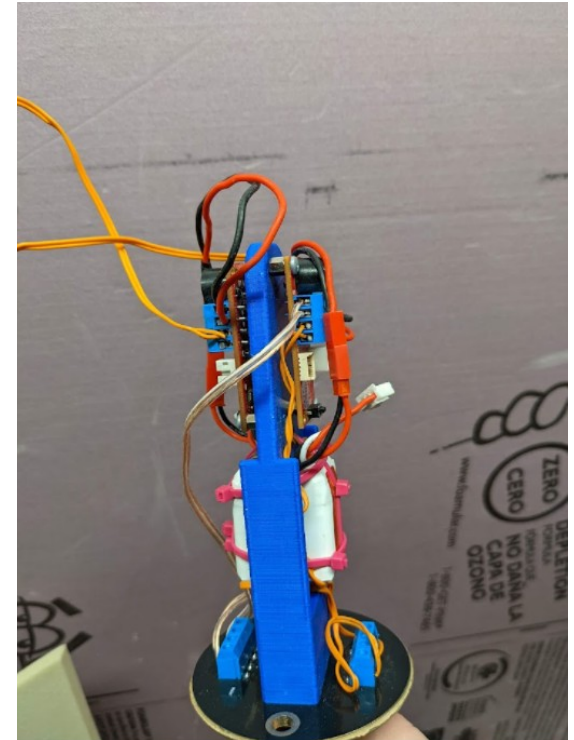
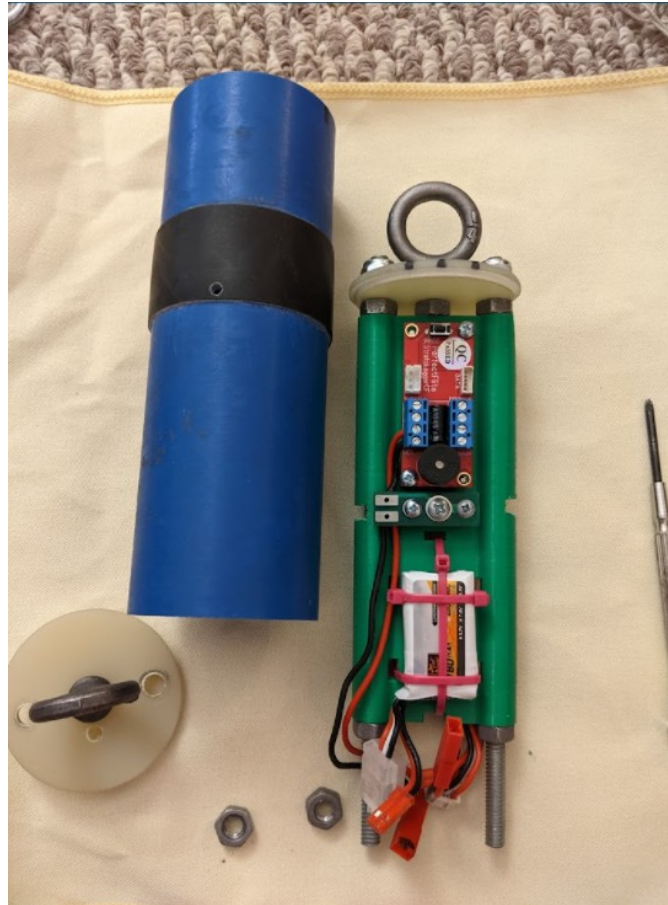
Fins and Internal Fillets



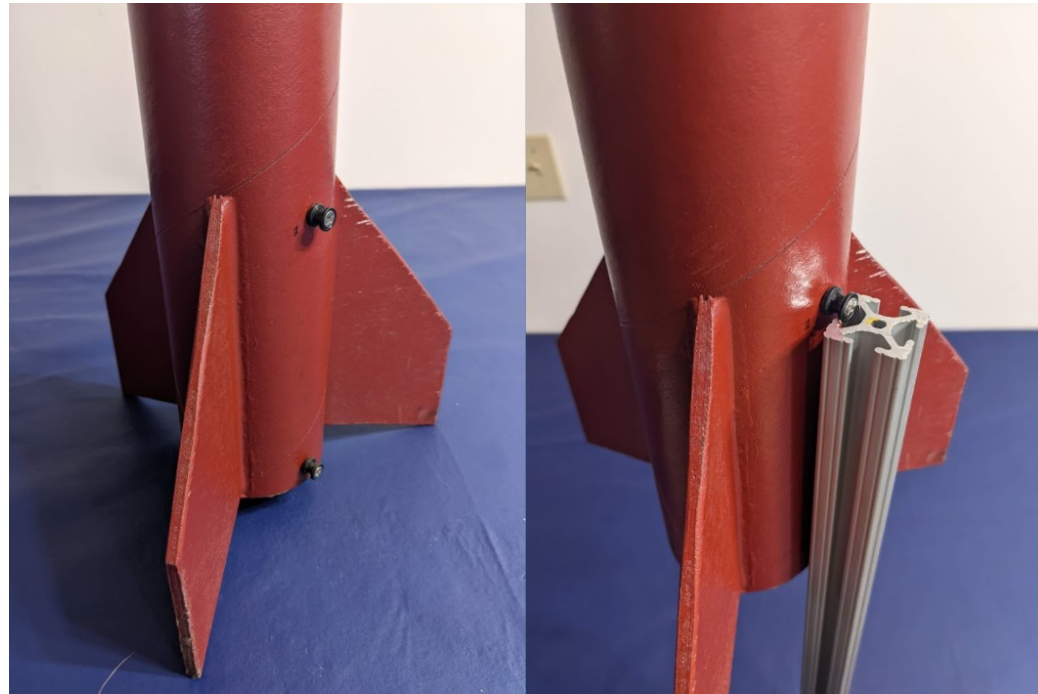
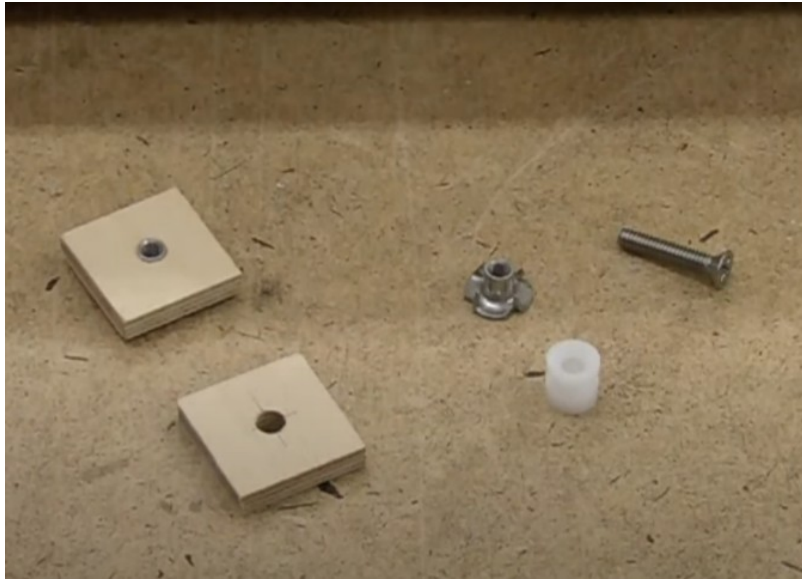
External Fillets



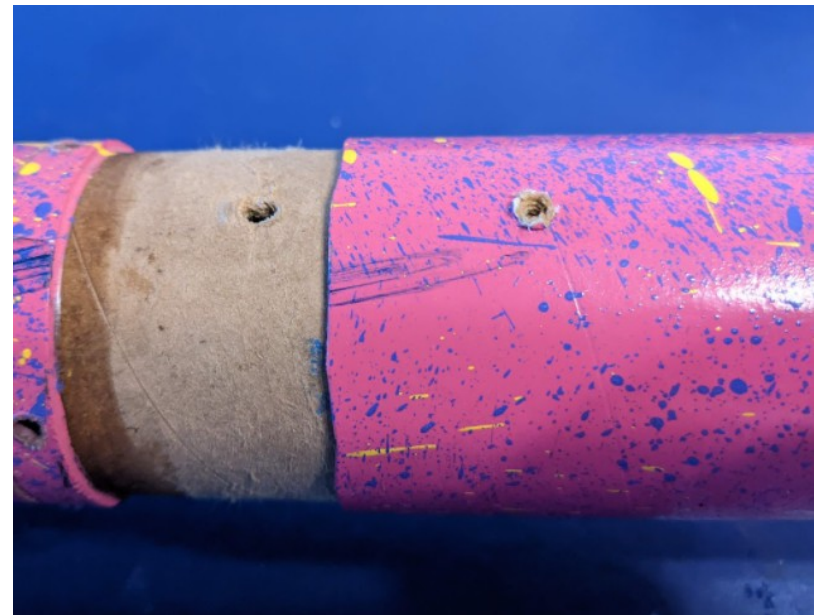
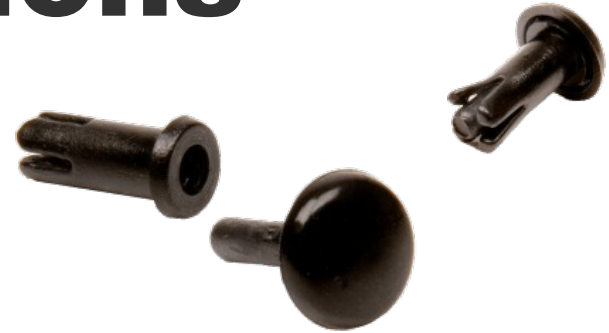
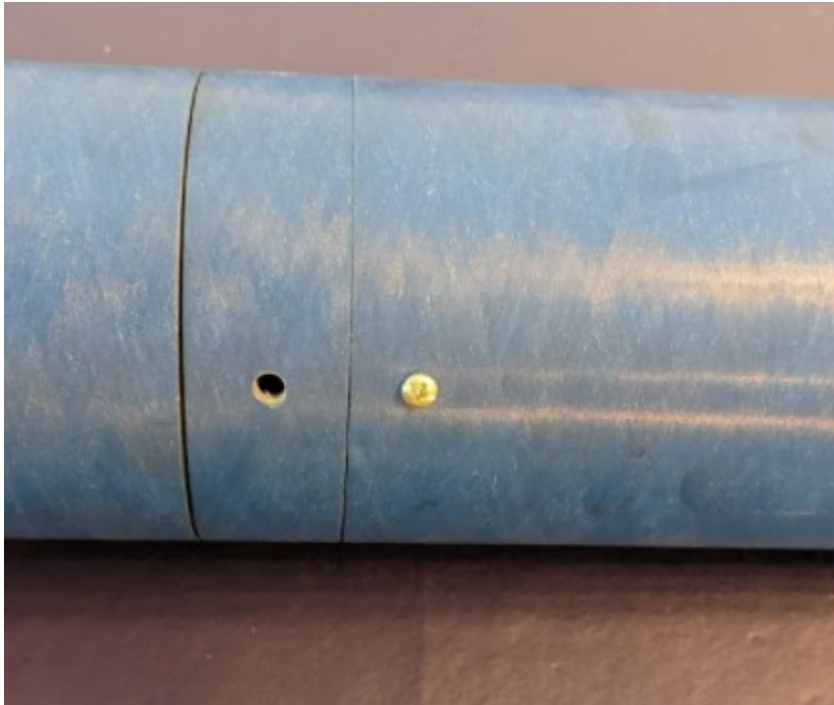
Avionics Bay



Rail Buttons



Bolted Connections



Motor Retention



Painting and Finishing

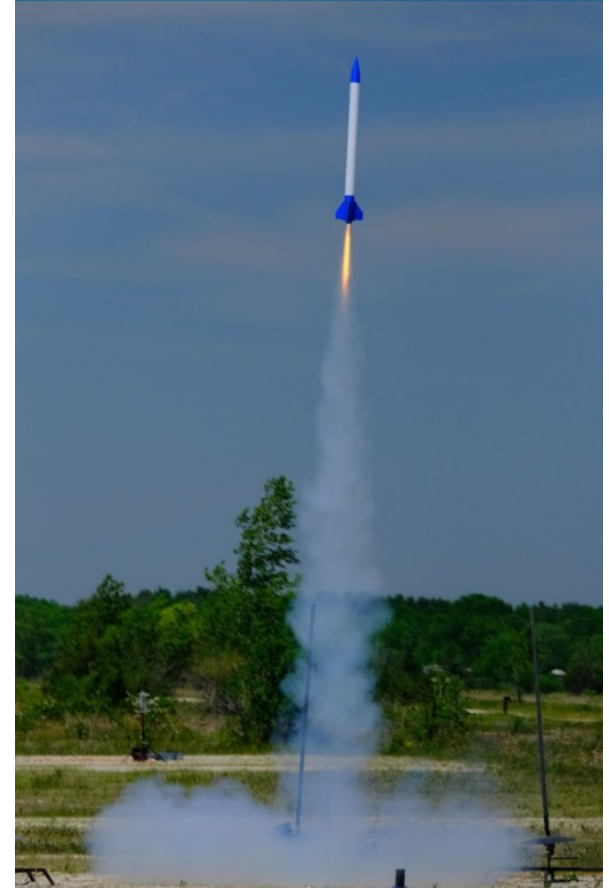
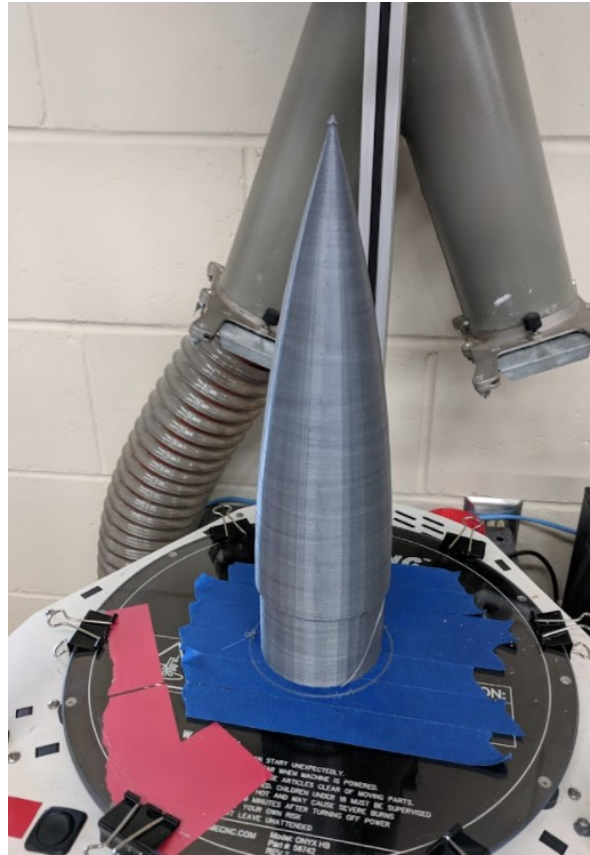
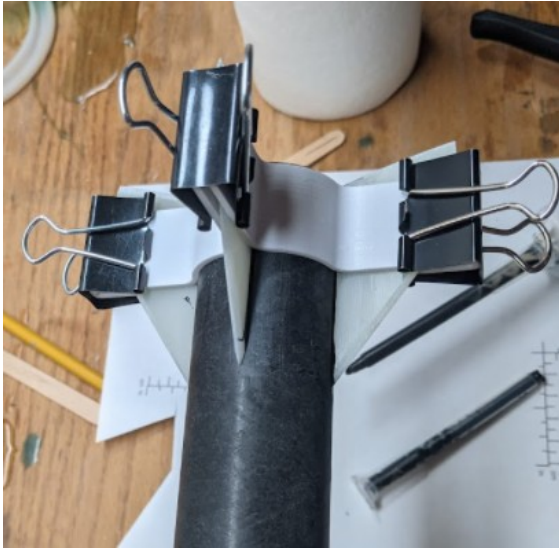
- Select the right paint
- Surface prep
- Multiple light passes
- Re-coat and Dry times on each can



Composite Reinforcement



3D Printing



Failure Modes

- Recovery Attachment Failure
- Drag Separation
- Zipper
- Fin Flutter
- Motor fly through





Q & A

Other Resources

- John Coker's YouTube videos
 - Certify Level 1
 - <https://www.youtube.com/watch?v=Xtr3758PvzA>
 - Level 2 in Style
 - <https://www.youtube.com/watch?v=PMqzxl1tVF4>
- The Rocketry Forum
 - “Properly bonding composites and what your government doesn't want you to know”
 - <https://www.rocketryforum.com/threads/properly-bonding-composites-and-what-your-government-doesnt-want-you-to-know.58389/>
 - Build threads
- Kit instructions
 - Not just for the kit you are building