

Inverted Pursuits Lab

SENTINEL

Parts:

3D Printed

- Nose Cone (IP101001)
- Nose Cone Shoulder (IP101002)
- Body Section 1 (BS1) - Lower Shock Cord Mount (IP101003)
- Body Section 2 (BS2) - Mid sections (IP101004)
- Body Section 3 (BS3) - Nose Cone Adaptor (IP101005)
- Fin Can (IP101006)
- Motor Retention (IP101007)

Standard Parts

- 7 inch 29mm Cardboard Tube

Additionally Needed

- Motor and Igniter of choice
- 1/8in Kevlar 10-15ft
- 24" Nylon Parachute
- Rail Buttons

Rocket Specs

- Length: ~42.5in
- Diameter: 1.7in
- Motor Diam: 29mm
- Dry Mass (w/o Parachute or shock cord): 1.5lbs

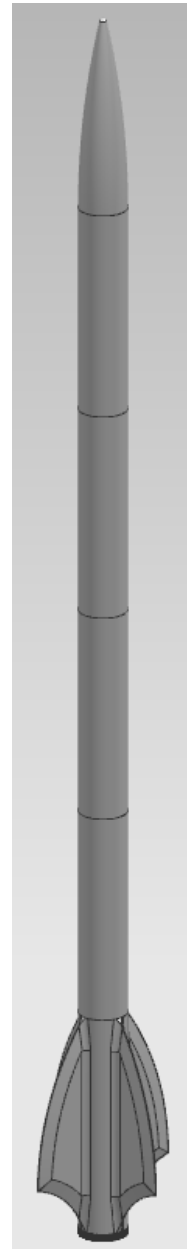
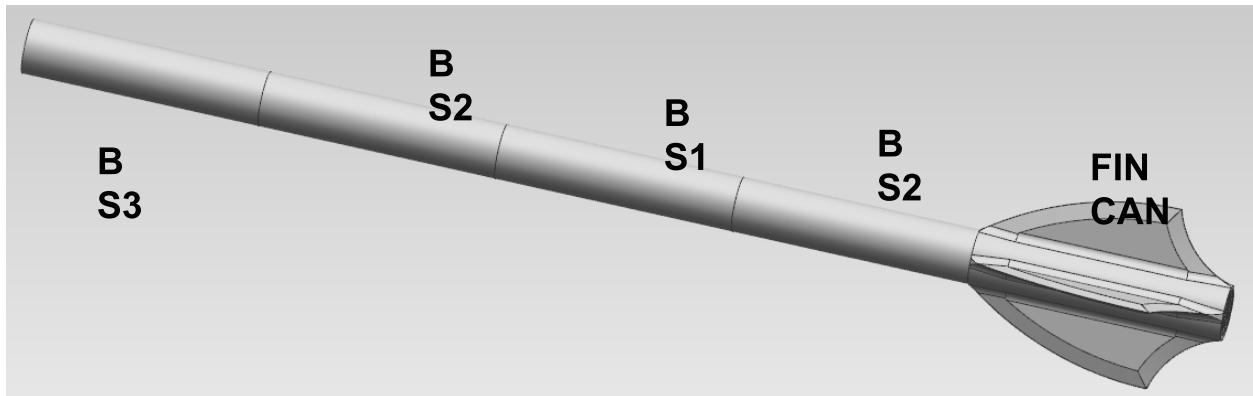


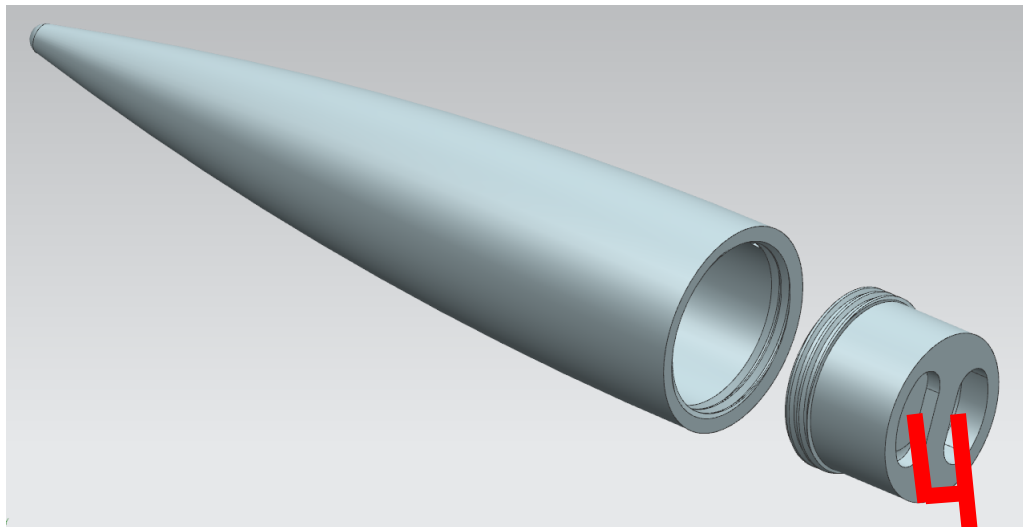
Figure 1: SENTINEL Rocket

Assembly Instructions

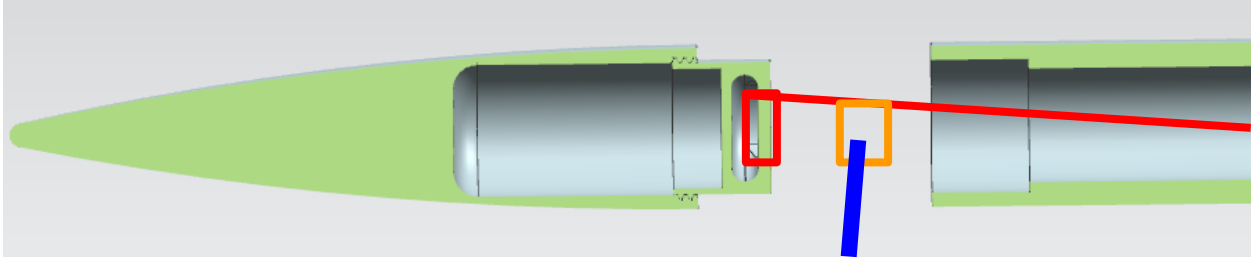
1. An assembly video is available on YouTube at Inverted Pursuits Laboratory. Simply search the rocket name on the channel.
2. Be sure to test fit and sand all components as needed prior to proceeding.
3. The components stack from bottom to top as follows: Fin Can, BS2, BS1, BS2, BS3 and are screwed together using the printed threads. **NO GLUE NEEDED**



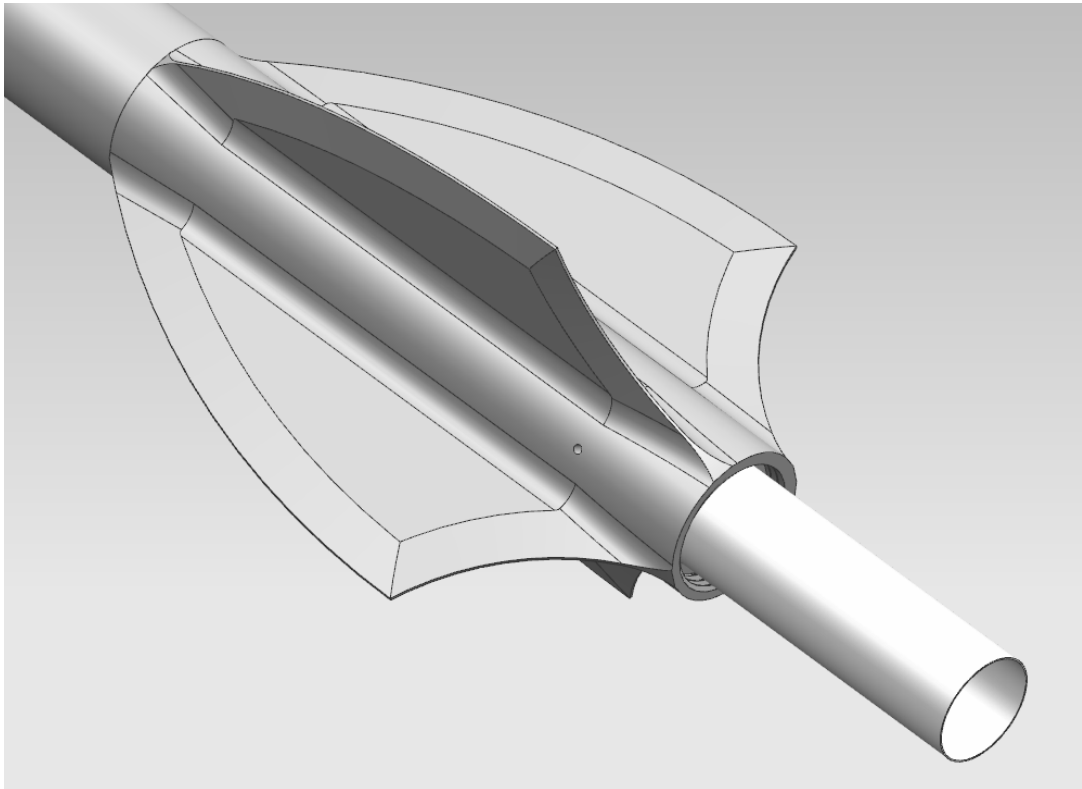
4. Once screwed together tie the shock cord around the internally printed shock cord mount located inside BS1. I recommend using a nut to assist in threading it through the rocket or tie it on prior to screwing the body together. Tying a slip knot or Two Half Hitches is recommended.
5. Attach the other end of the shock cord (RED) to the Nose Cone Shoulder Which screws into the Nose Cone. There is a small space inside here that can accommodate a tracker.



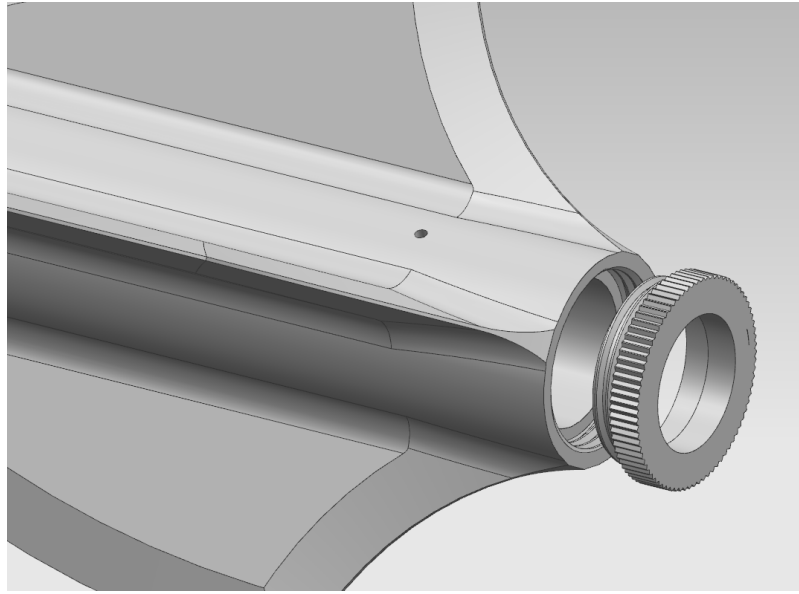
6. Tie a loop (ORANGE) into the shock cord (RED) just below the Nose Cone to attach your parachute (BLUE) to.
7. Attach the parachute to the newly created loop.



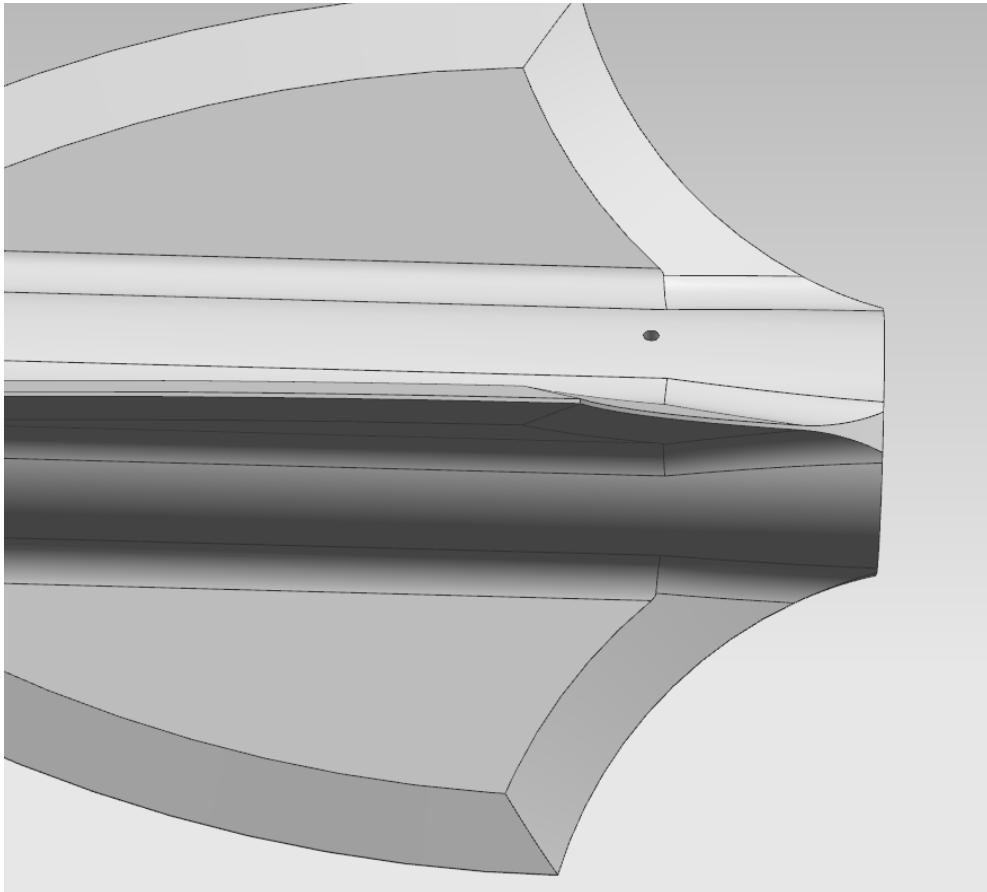
8. Slide the 7in 29mm motor tube into the back end of the fin can. It should seat up against an internal groove. With this design you have the option to glue the motor tube in or you can fly without gluing it in.



9. Screw the Motor Retainer into the back of the Fin Can.



10. The Aft (Bottom) Rail button screws into a hole located in the FIN CAN.



11. The Forward Rail button should be placed near your CG. It is recommended to locate the forward rail button 19 inches from the bottom of the rocket when the motor retention is removed. This places the rail button on BS1 just below the shock cord mount.
12. Flight Characteristics and anticipated altitudes need to be verified through the provided OpenRocket file at www.jboyson.com.
13. Remember to add wadding or some of the provided dog barf to keep the ejection charge from burning / melting the parachute. Additionally it is recommended to add a small amount of the dog barf in the space between the motor and the shock cord mount as it improves longevity of the rocket.
14. Once the motor is installed, go out to the launch pad and enjoy.
15. Remember to keep it Pointy End Up!

