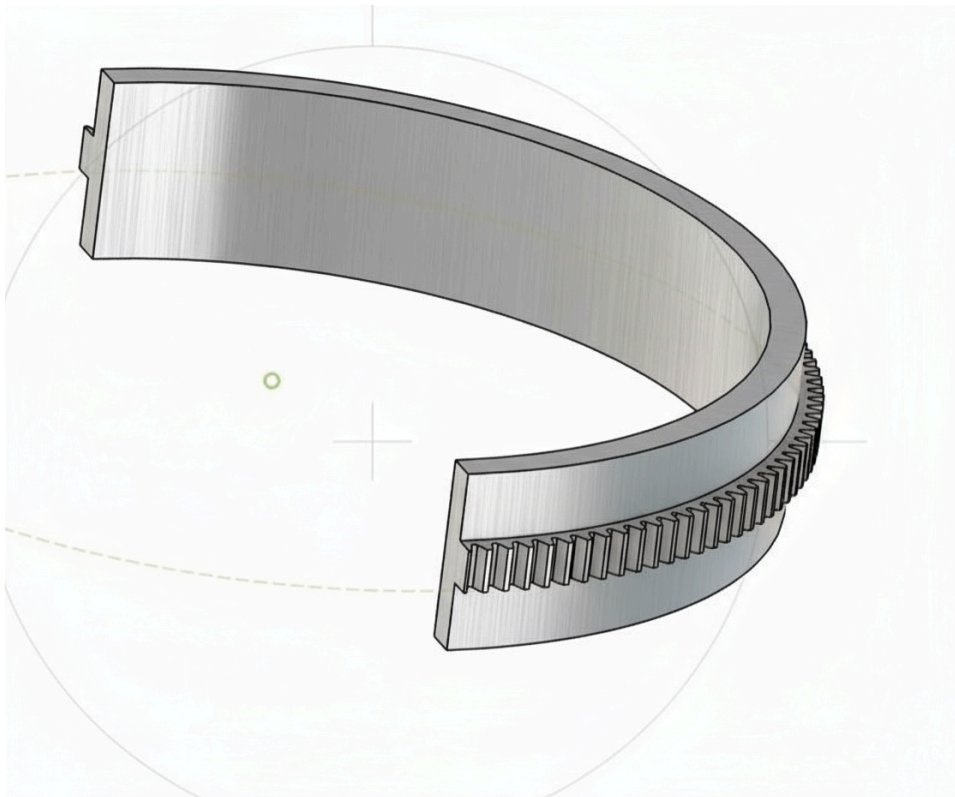
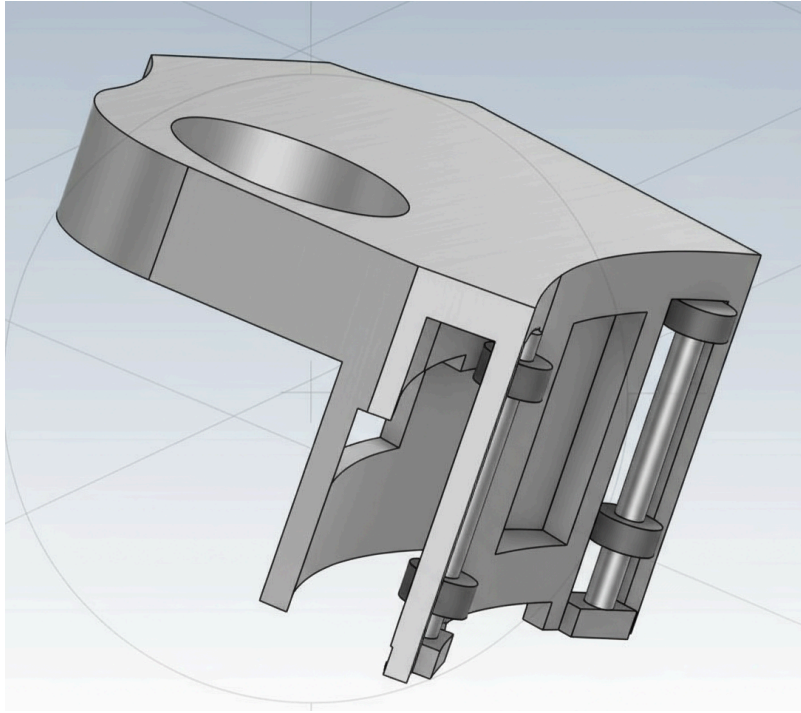


## Project Progress & Next Steps

### Mechanical System Updates

- A C-beam linear actuator has been purchased for the cutting unit's vertical (up-and-down) motion. Confirmed it can manage the weight using nema 23 motor.
- After getting a quote from the CNC manufacturers, we worked with them to make a few tweaks for better and cost effective machining.
  - Manufacturing the main **circular ring** from **Aluminium 2025**. We've increased a fillet radius on the gear from 0.9 mm to 1.25 mm and slimmed the whole part down to a 50 mm width to simplify the machining process.
  - For the **slider** and other parts, we're using **Aluminium 6061**. We adjusted wheels to fit into the slider to make assembly smoother and decided to remove the gear cap entirely to make it easier to build.





#### Manufacturing and Production Schedule

- CNC Machining: All remaining CNC work for parts, is scheduled for completion next week
- Cutting Blade Fabrication: The 3-face cutting blade, will also be manufactured next week

#### Next Steps and Upcoming Milestones

With the completion of all CNC work, the immediate focus will shift to assembly and testing.

- Assembly: Once all manufactured parts are received, the final assembly of the cutting system will be completed.
- Initial Testing: The fully assembled cutting unit will be tested in a rubber tree, which will validate the mechanical design, cutting effectiveness, and control system integration.