

Autocam Sponsors

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Background

Autocam-Medical makes high precision parts like this surgical drill for cataract surgery. The internal components of the drill currently torque together with a hand wrench. The project goal was to implement an automation process to torque the components together.

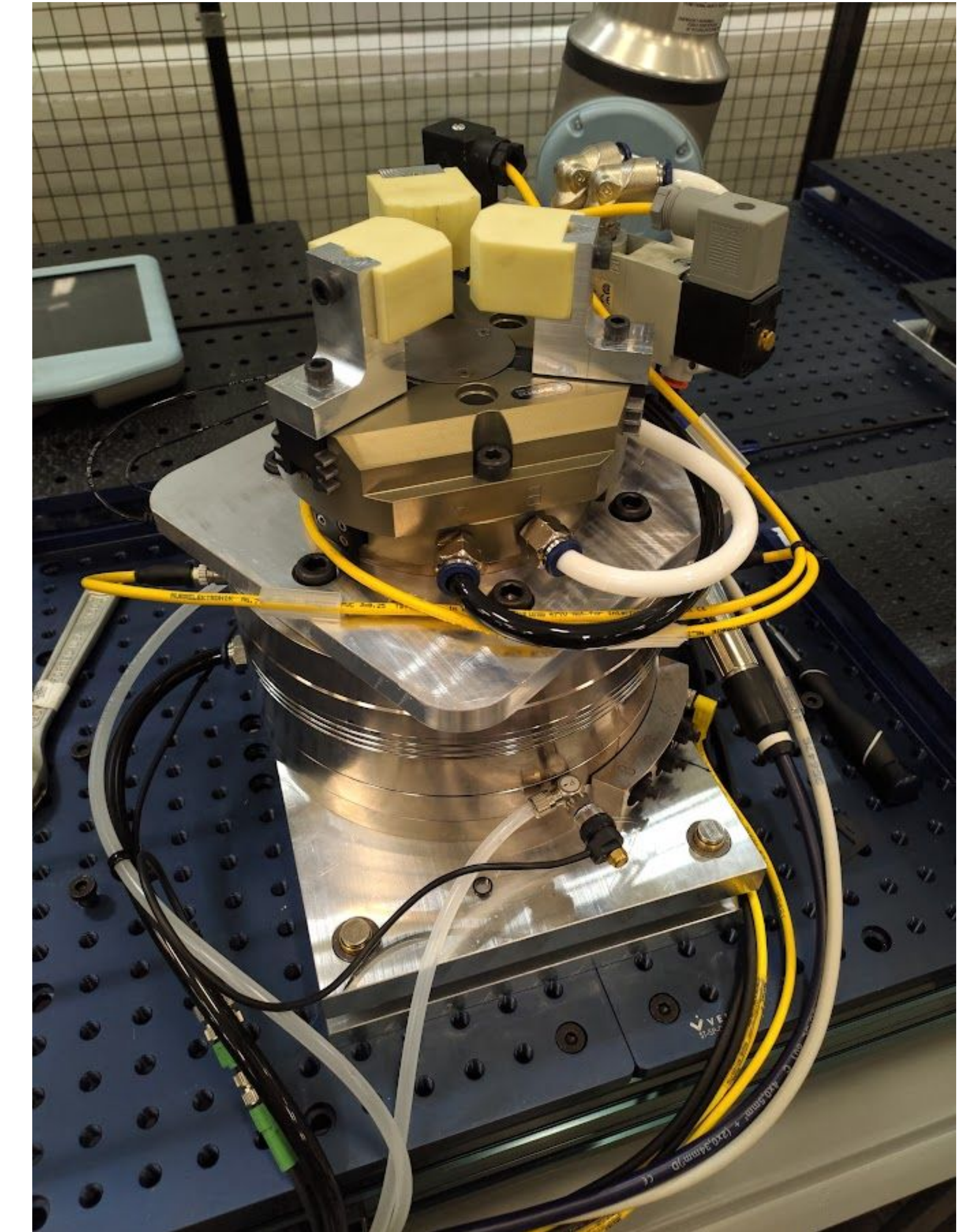
Current Process



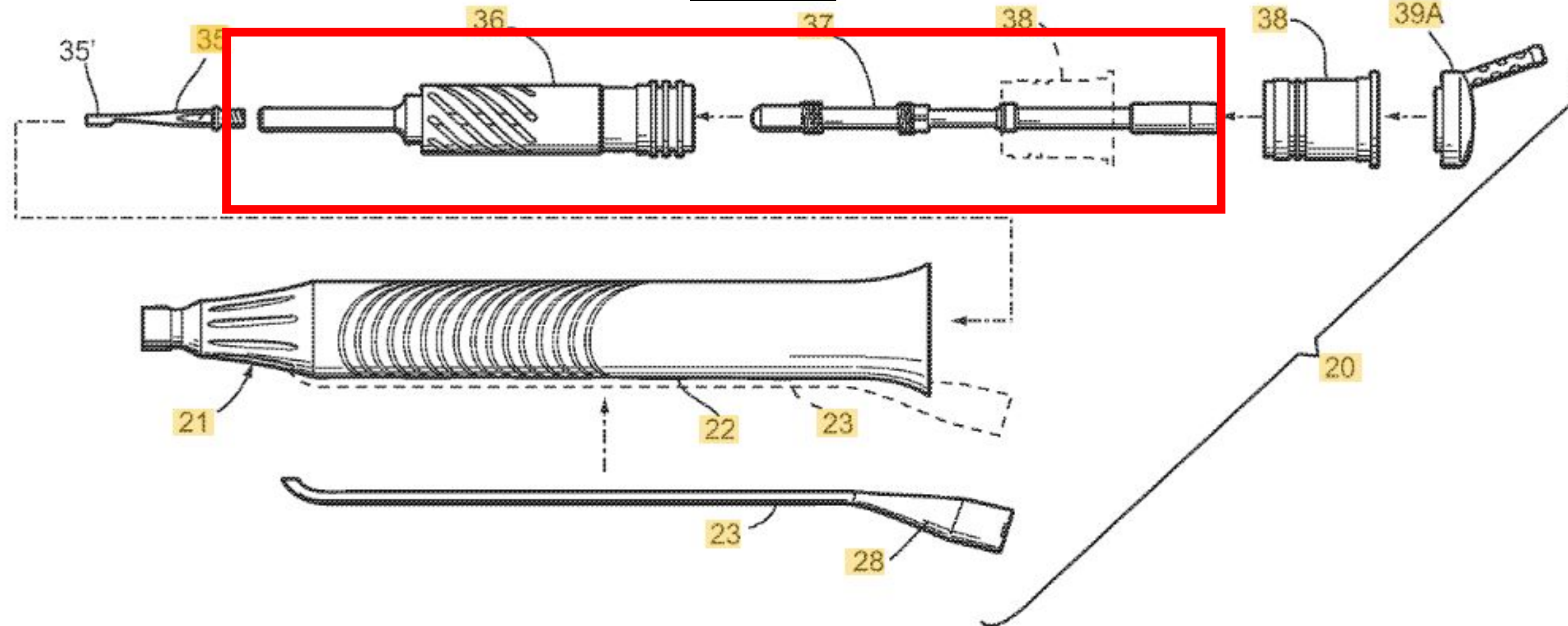
Prominent Features

- UR5-e Collaborative robot
- Servo Torquing Station
- Custom 3-in-1 EOAT
- Assembles up to 240 parts
- FUTEK torque sensor with readout

Servo Station



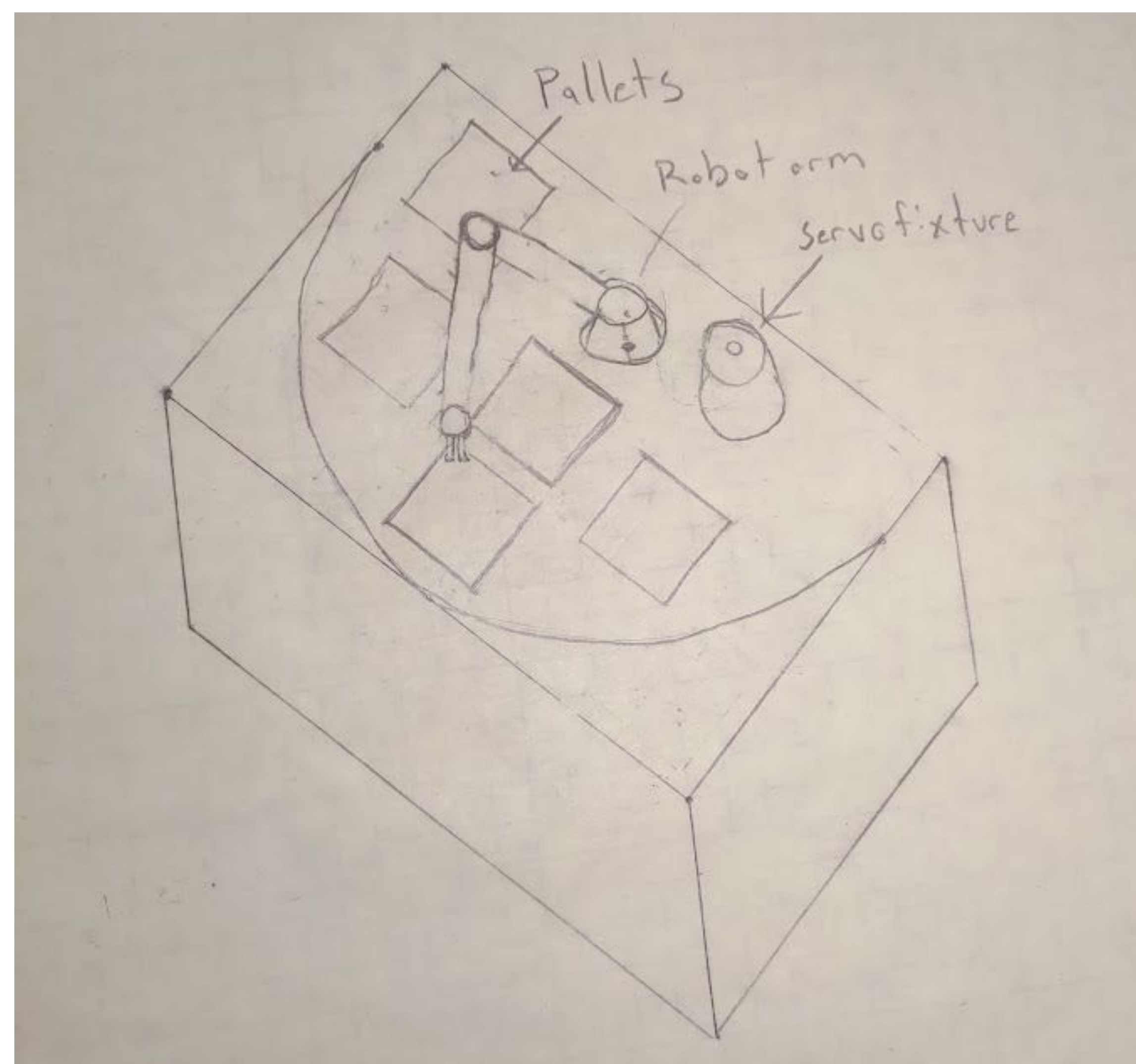
Parts



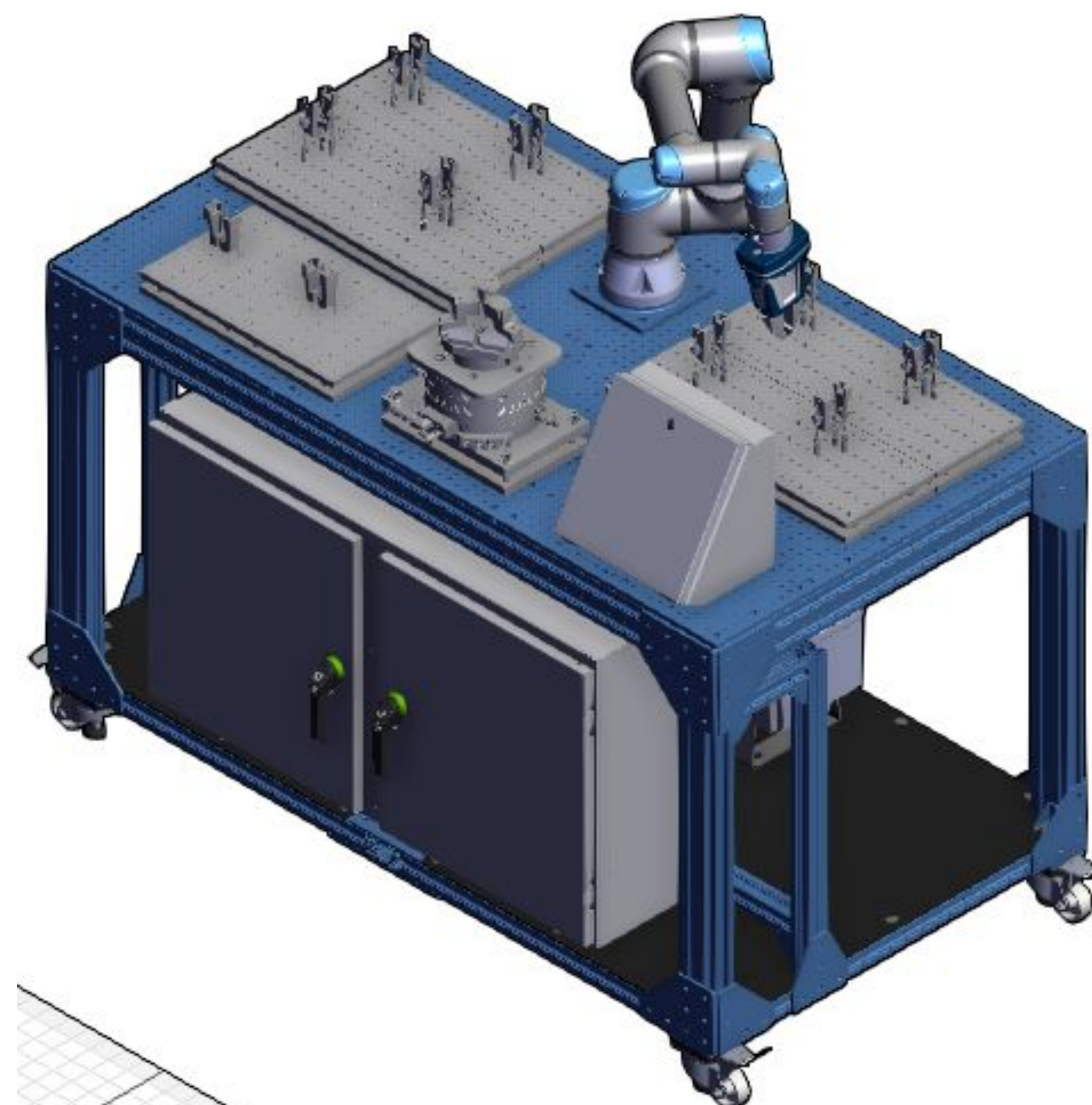
Revisions and hurdles

- Servo power requirements and communication
- Improved End of arm tooling
- Optimized table layout
- Added bearing sliders to servo station

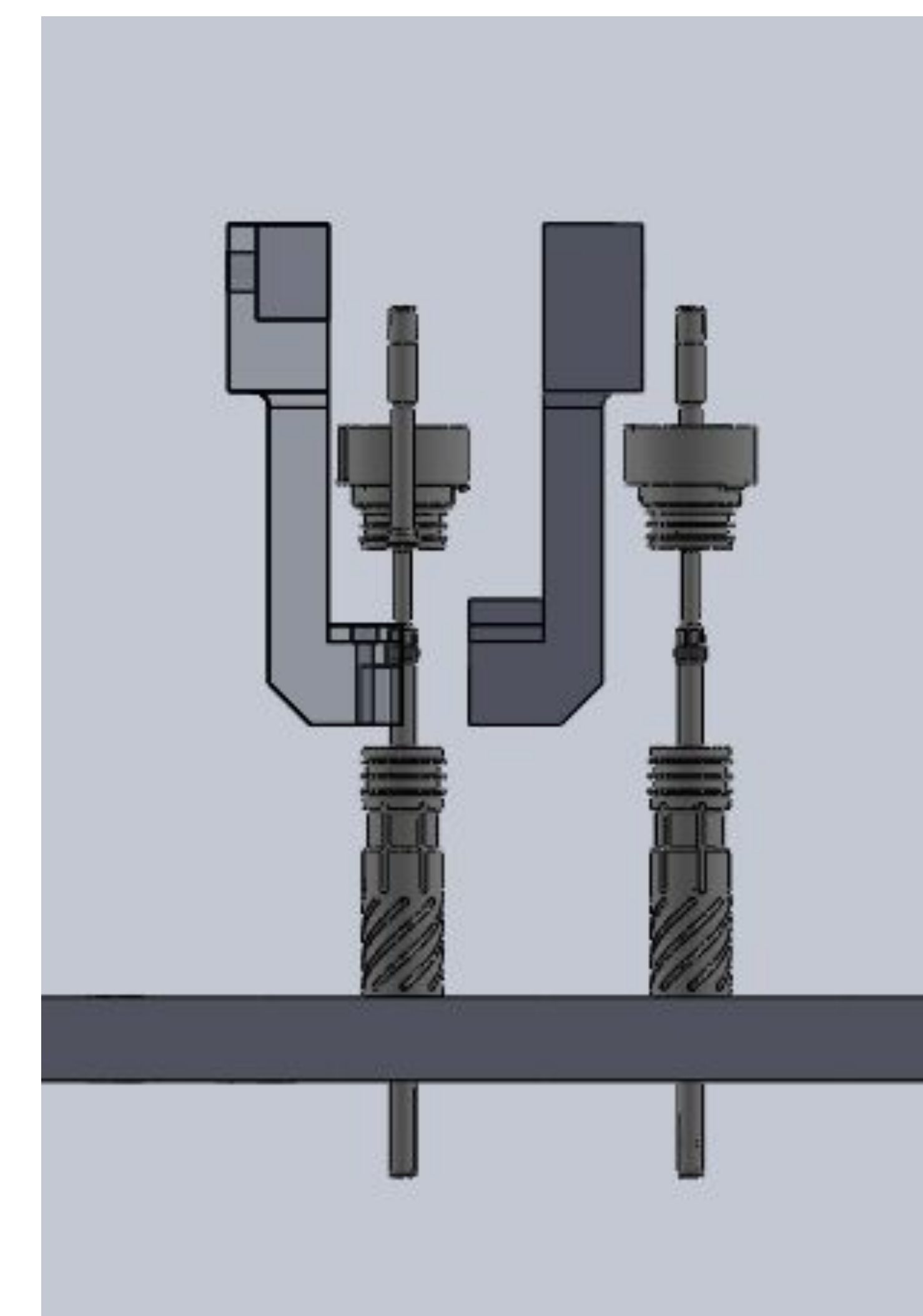
Initial Concept



Detailed Design



Part pickup design



FEA

