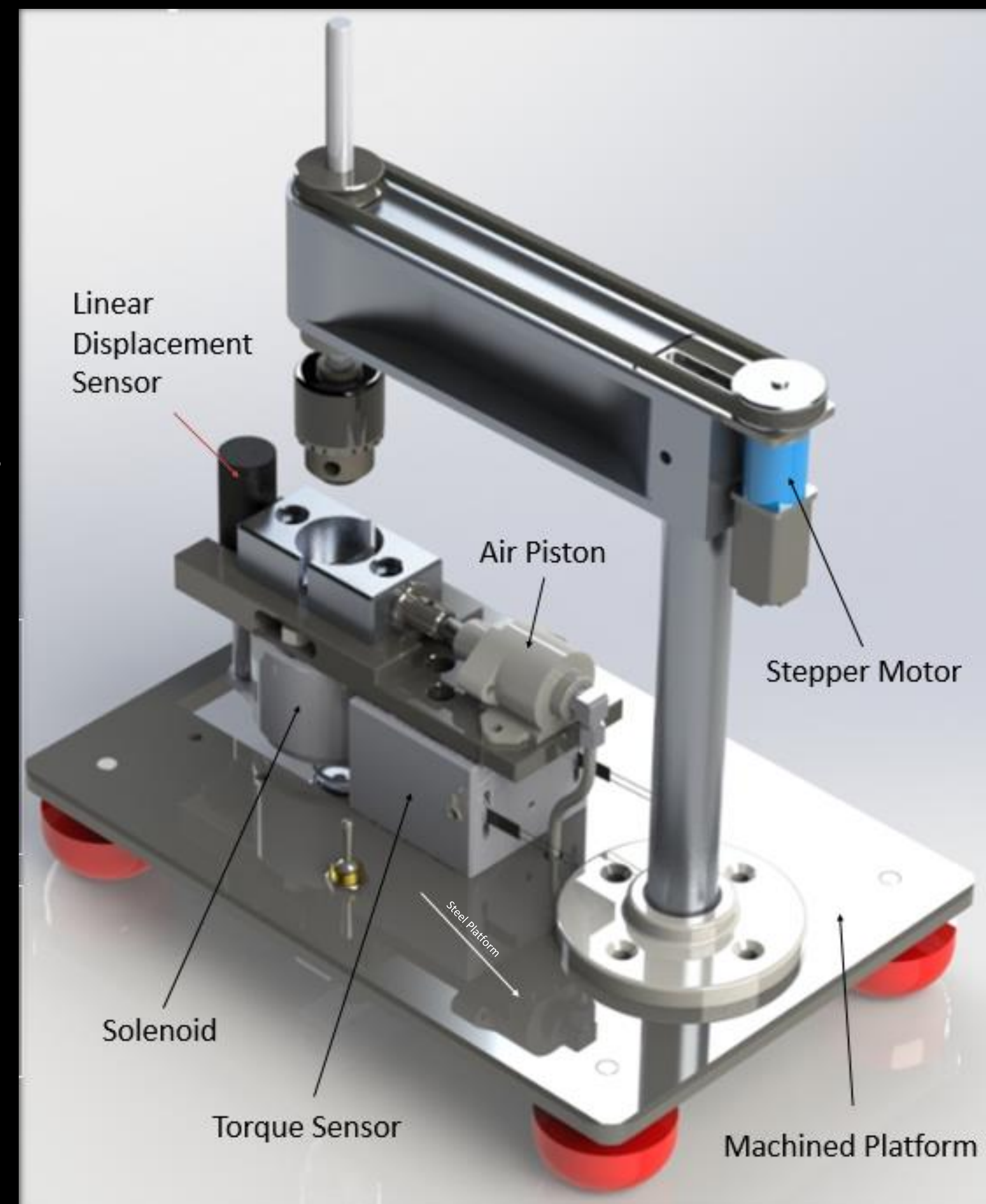


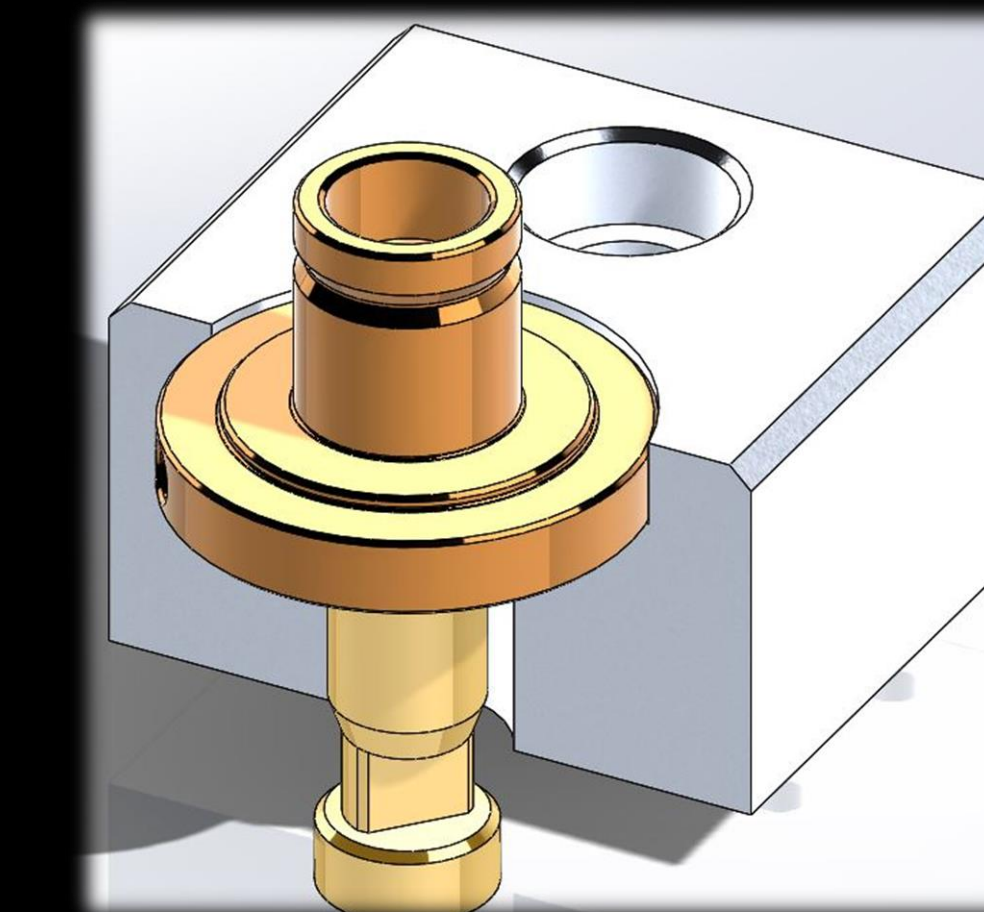
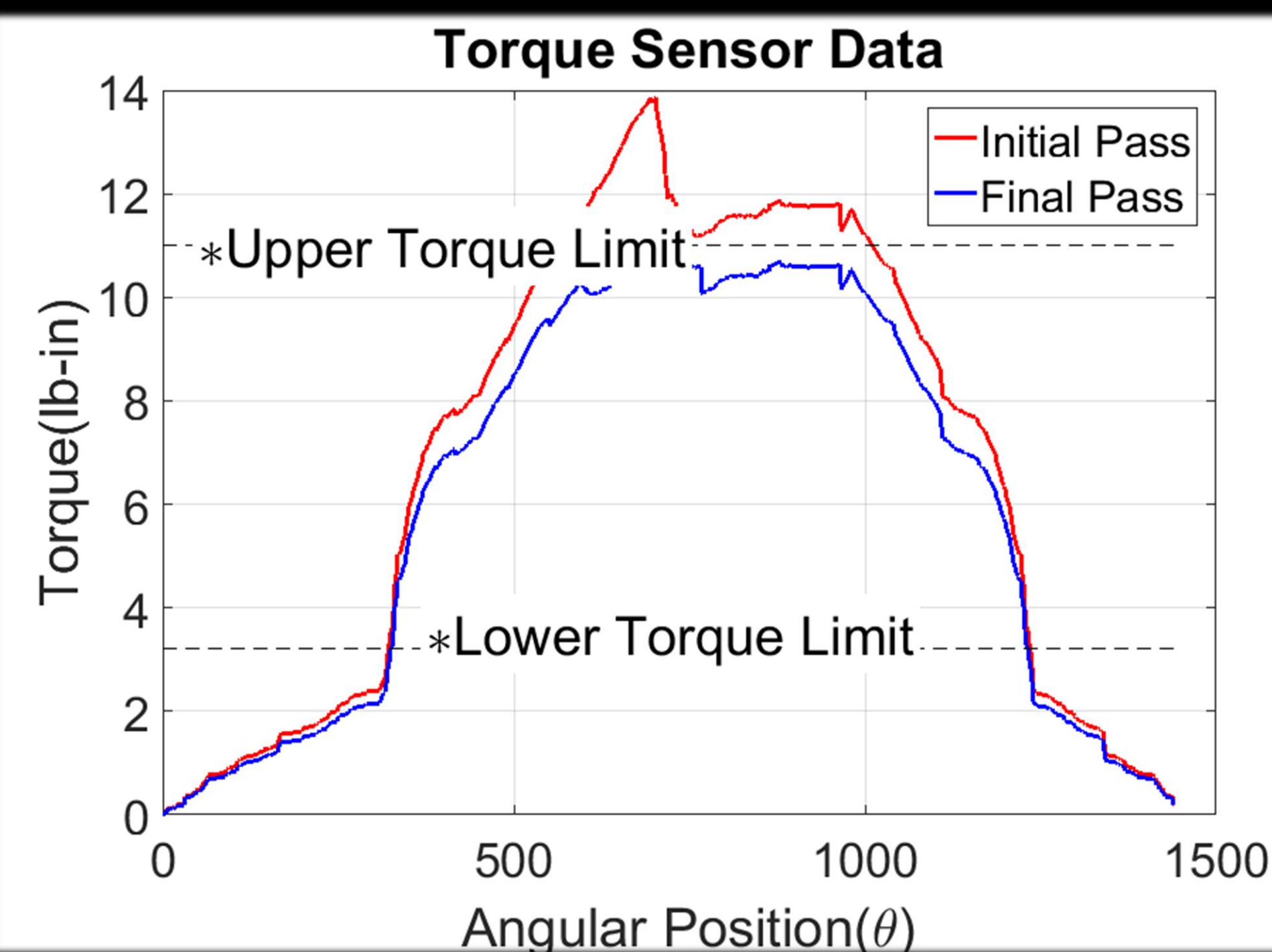


AUTOMATED BURNISHING MACHINE FOR NIGHTFORCE®

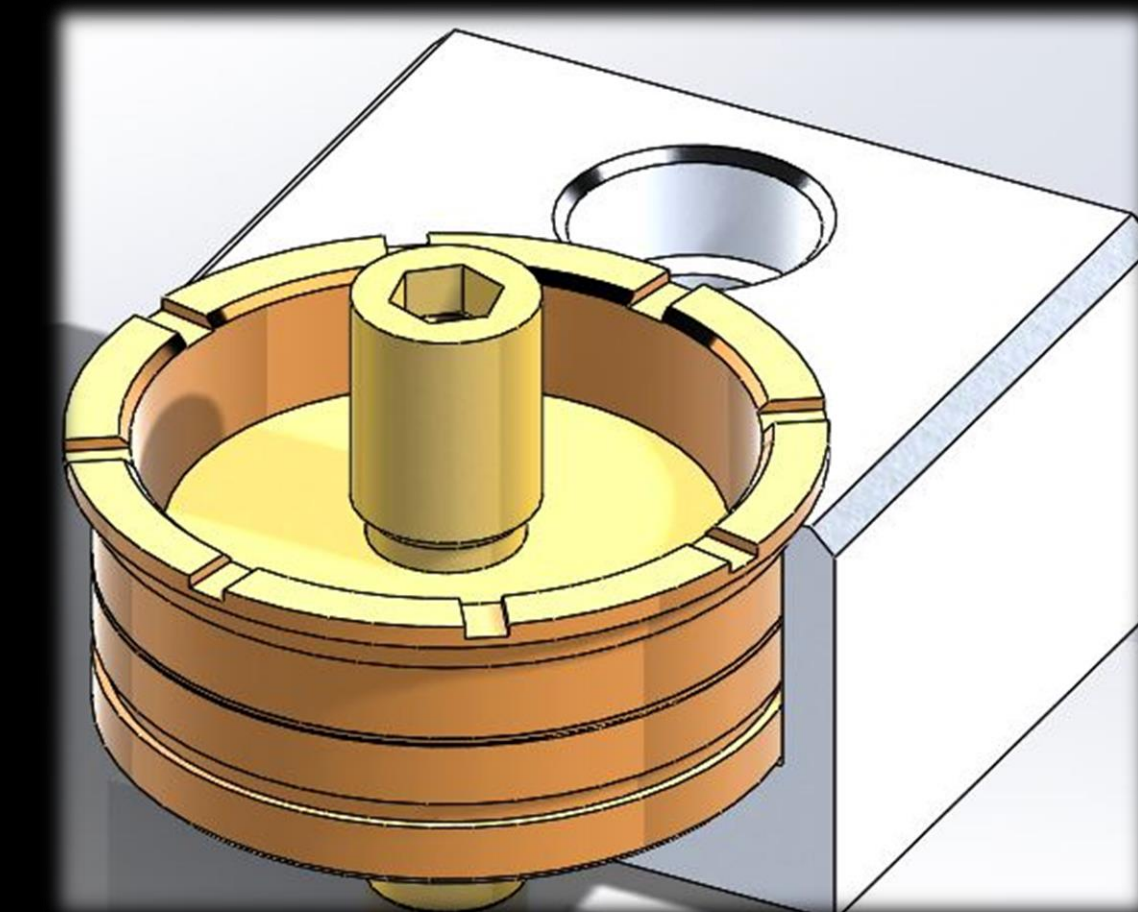
PROTOTYPE



ANALYSIS

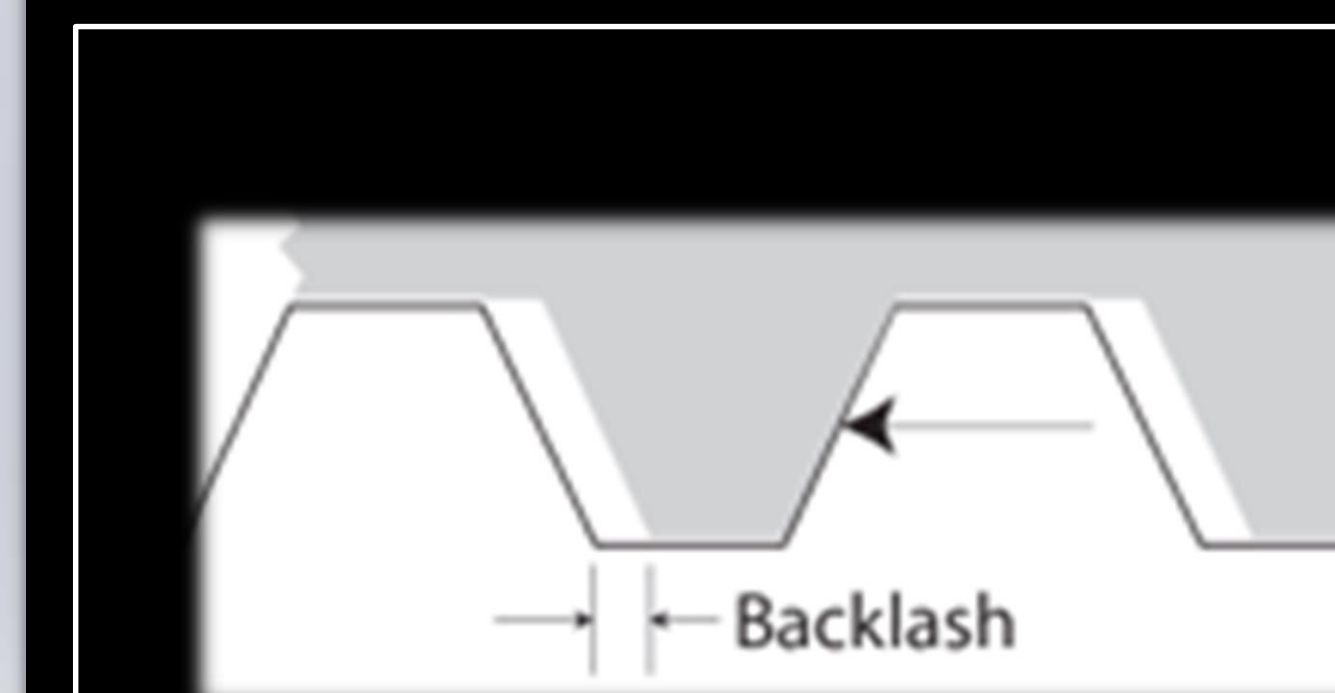


SA266

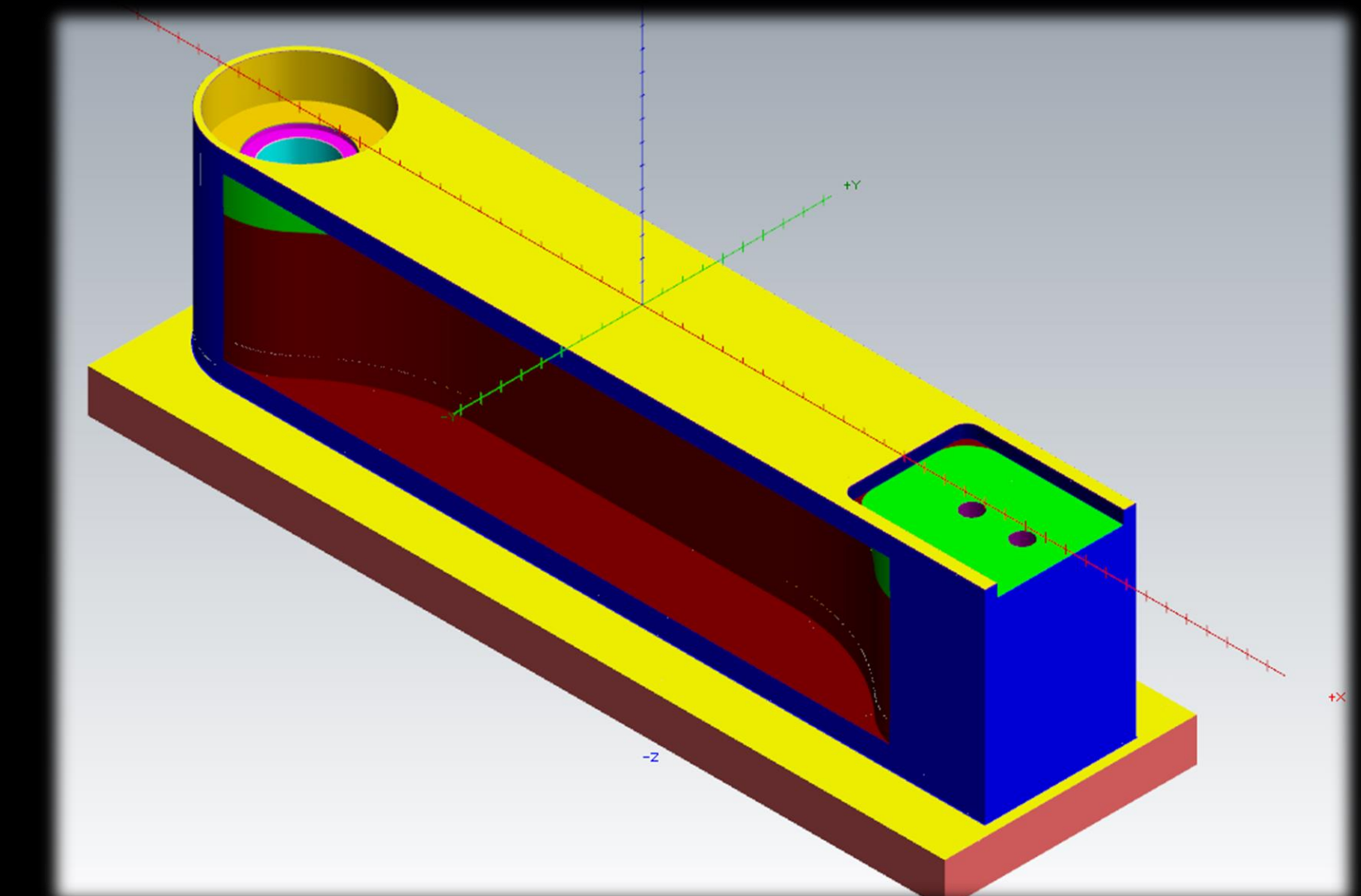


SA289

Custom machined turret clamping blocks.



Backlash is the play or 'dead space' between adjacent movable parts. An average 1" bolt is machined with 0.02" backlash. NightForce requires their backlash to be essentially zero.*



Top of Arbor Mastercam for the CNC mill



Top of Arbor in CNC machining process

*Proprietary Information

Members: (From Left to Right) Kyle Flack, Fawaz Alharbi, Blake Warner, Selso Gallegos

Faculty Advisors: Dan Cordon, Steve Beyerlein

Mentor: Jacob Gilles

Problem Statement: Design, fabricate, and test automated method to burnish lead screw threads. This device should be able to burnish lead screw threads automatically with minimal user input and be able to achieve repeatability in thread backlash and torque to a finite amount.

Project Goal: To design and prototype an automated burnishing machine that is simple to operate, adjustable to different turret models and capable of burnishing to a specified torque and backlash.

SYSTEM DIAGRAM

