University of Louisiana - Lafayette
Department of Mechanical Engineering
MCHE 484: Engineering Projects II

Weekly Progress Report (8)

To: Dr. Yonas Niguse

Cc: Yonas Niguse, Katie Kaliszeski, Matthew Dubea, Andre Signoret

From: **Full Throttle Engineers** | Katie Kaliszeski, Matthew Dubea, and Andre Signoret

Due Date | Presentation Date: April 2, 2025

Sub: Weekly Progress/Plans

1. **Targets Planned Last Week:**
    a. Continually maintain an up-to-date SolidWorks part and assembly design - until all parts are finalized.
        i. FEA / simulation results - kinematics of our design vs kinematics of typical MTN bike.
            1. Compare riders' comfort (pedals to handlebars distance considering knees)

(Updated SolidWorks: seat and stem)

    b. Test prototype on track in New Iberia city park
    c. Submit Roster: April 1st

2. **Targets Completed:**
    a. Finalized all SolidWorks designs on the remaining parts required for the final tricycle assembly; these parts include: (see Figures 1-4 following)
        i. Quill stem (attaches handlebars)
        ii. Rear axle bushing
        iii. Rear seat support
        iv. Front seat bushing

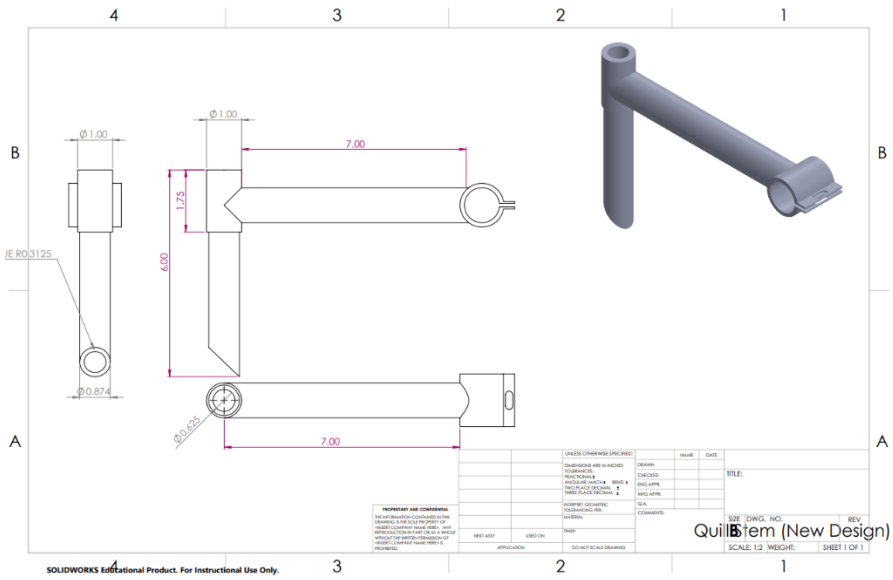

Figure 1: *Quill Stem SolidWorks Design*

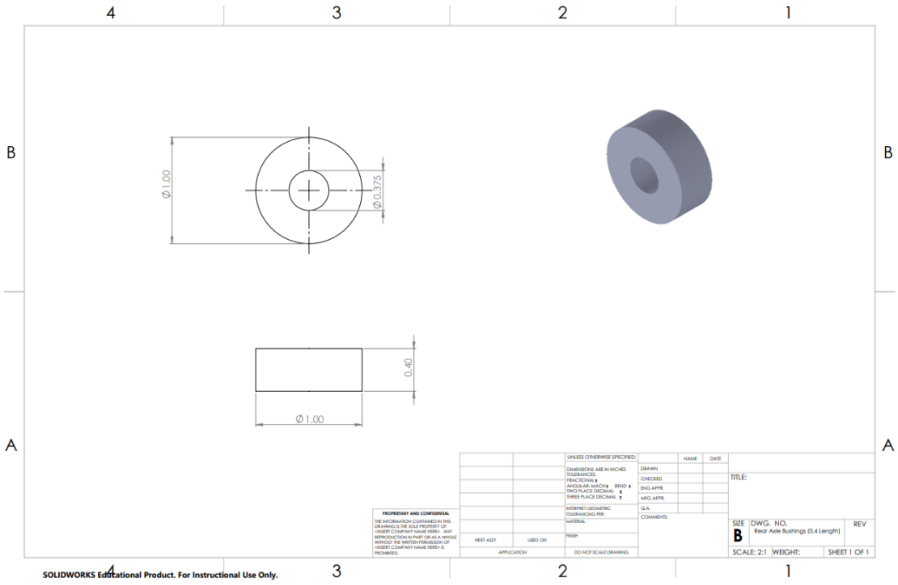

Figure 2: *Rear Axle Bushing SolidWorks Design*

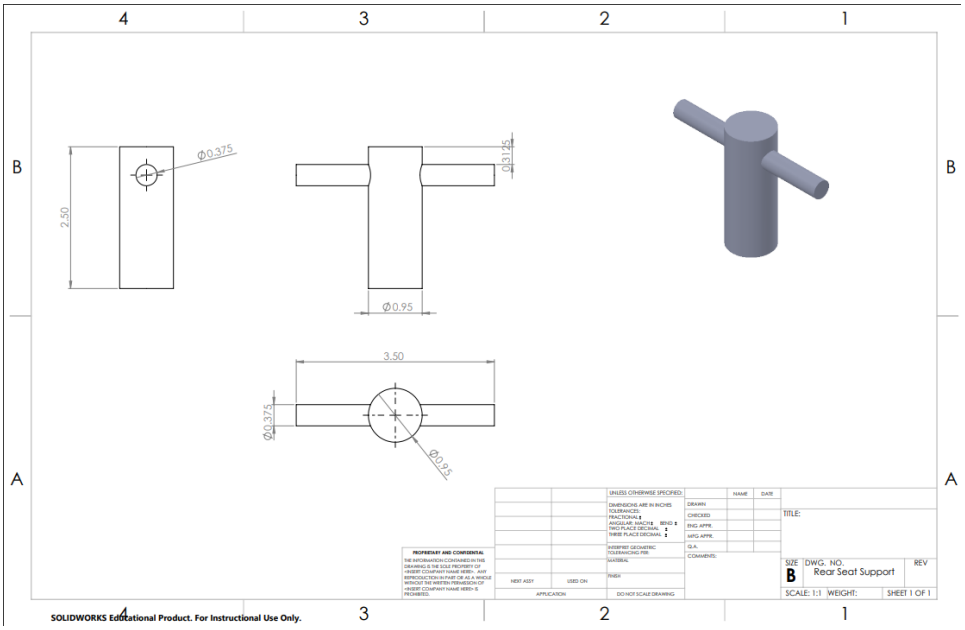

Figure 3: *Rear Seat Support SolidWorks Design*

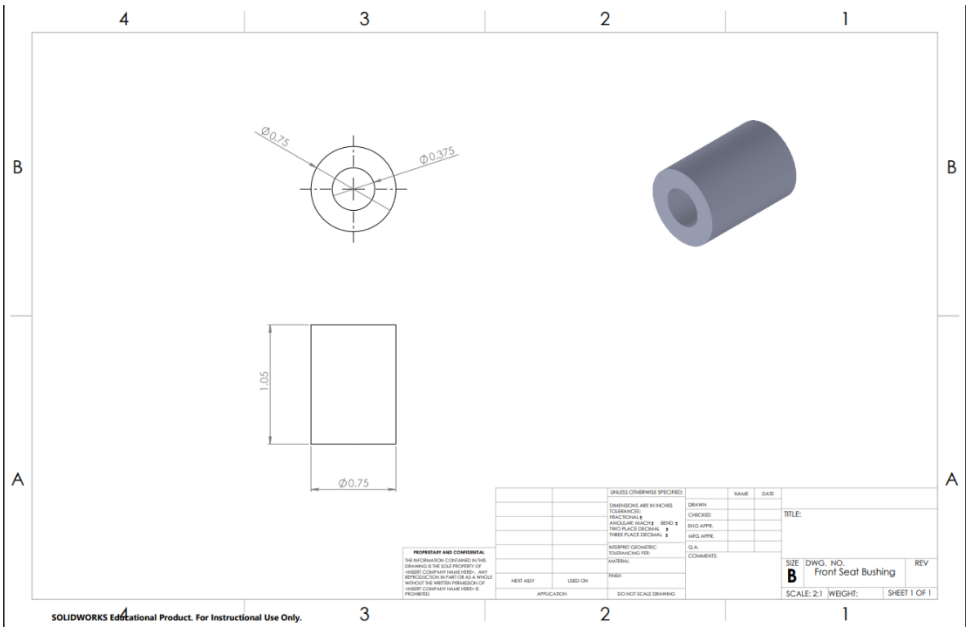

Figure 4: *Front Seat Bushing SolidWorks Design*

3. **Targets Not Completed:**
    a. The team was unable to complete the goal of testing the tricycle at the New Iberia City Park due to the seat not fully being completed
    b. The roster for the racing event has been completed and finalized.
4. **Plan of Action for the Next Week:**

a. Finalize the SolidWorks tricycle design with all latest updates on parts shown above/perform FEA after doing so
b. All SolidWorks designs above will be done by the end of this week, at the latest. Due to this, the team will be able to practice riding the tricycle at the New Iberia City Park (where the race will be held)
c. Because the due date to submit the team roster was extended to April 9th, the team must submit this in the next few days

5. **This Weeks Achievements & Success or Problems and Concerns (if any):**
    a. Achievements/Success:
        i. Seat COM (compare SolidWorks design with actual design).
        ii. Finalized all remaining parts necessary for the tricycle assembly!

    b. Problems/Concerns: N/A