

**Team: p21011 (CHAD)**

**Engineer: Jared Moore**

**What were the outcomes of the prior phase?**

1. What did I plan to do?
  - Look into assembling what is in the locker
  - Start purchasing
  - Test hydraulic system
2. What did I actually do?
  - Missing seat plate from last year
  - Removed rust from previous groups parts
  - Welded the base components together (Thursday nights)
  - Purchased paint, and new aluminum sheet for the seat plate
  - Helped test hydraulic
3. What did I learn? How were plan and reality different?

I learned that everything does not go as planned. I was able to almost get everything done that I said I would. I should set aside more time during the week to complete the non-mandatory work like reviewing new material options for the build and test phase. I also learned that welding takes time and it accurate to the nearest 1/8<sup>th</sup> inch. Some of the prints were dimensioned wrong making it harder to actually build/manufacture the part.

**Team level goal for next phase**

We will look in depth at last year's prototype we reconstructed this phase and conduct testing to decide what is viable and what we need to change. We plan on running tests to help improve the hydraulic system from last semester and generate calculations. We will also be attempting to run materials testing on the steel and aluminum being used in the prototype for possible biomaterials issues. Our goal is to begin making decisions on our final design and look at how to incorporate all engineering and customer requirements into the prototype. We want to be well prepared heading into next semester just in case we are on zoom.

**What do I plan on doing to ensure that my team has a successful review at the end of the next phase?**

- Determine if the hydraulic system works after modification (30 min, class 11/4)
- Continue welding on Thursday nights (2 hrs, every thursday)
- Investigate current roller design and redesign to prevent pinch points and make safer. (3 hrs 11/16)
- Learn more about current water lines and ease of tapping into current line (2 hrs 11/15)
- Continue purchasing and documenting our findings (daily)
- Assist in redesign of seat plate (2ish hours 11/4)

**What is standing in my way of meeting my next phase goals?**

Last year's team used Solidworks for their CAD design, which none of us really have had any experience with. I don't think it should be too big of a jump from Creo to Solidworks though, it may just take a little bit longer. We also want to get the seat plate machined, this would be done using the waterjet in the machine shop. The waterjet has been down for some time, so we'll have to keep an eye on that. Need to continue to assemble and determine if we need to make any design changes.