

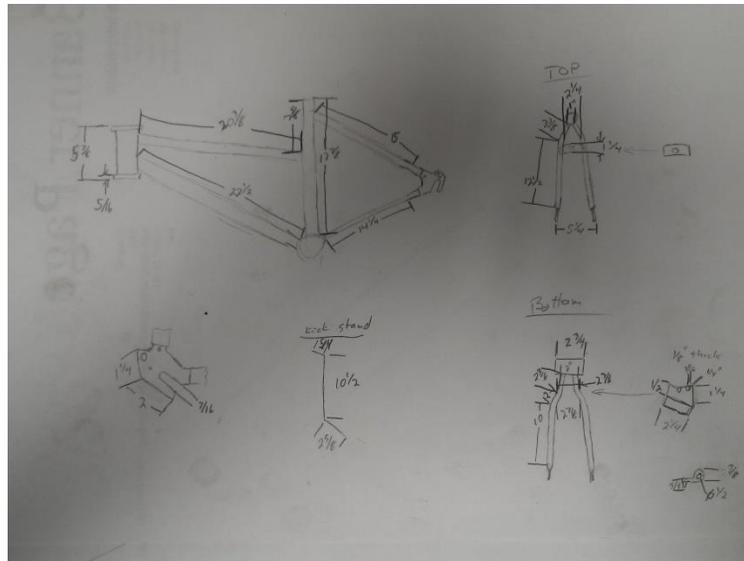
Nicholas Alan Smith

30 May 2012

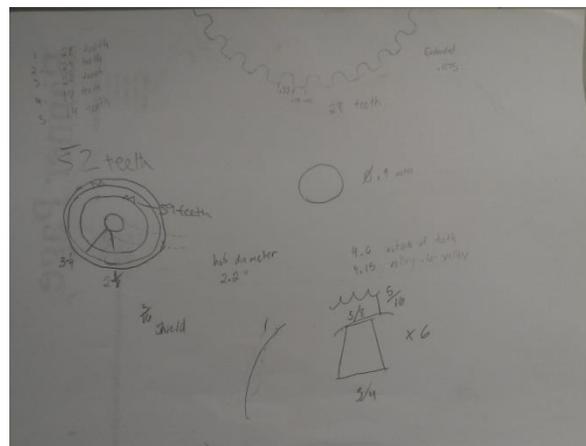
ME 202-02

Bike Project

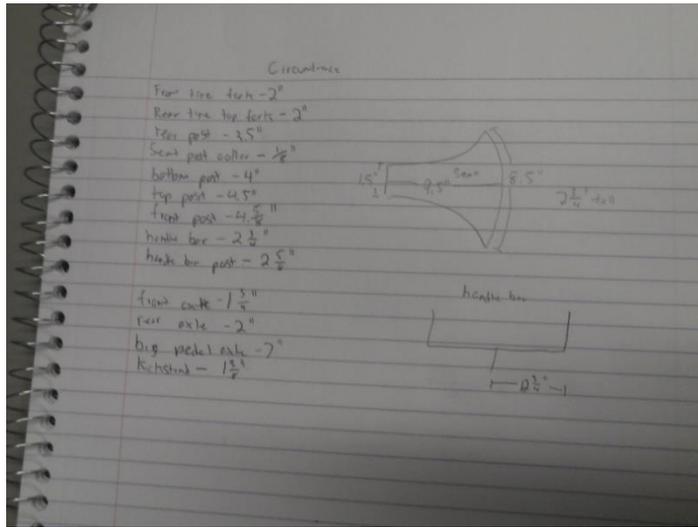




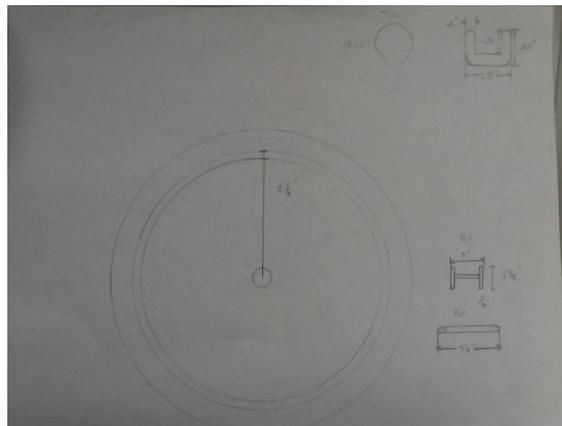
This photo was used to produce the bike frame, kickstand, kickstand holder, and the top and bottom forks attached to the bike frame.



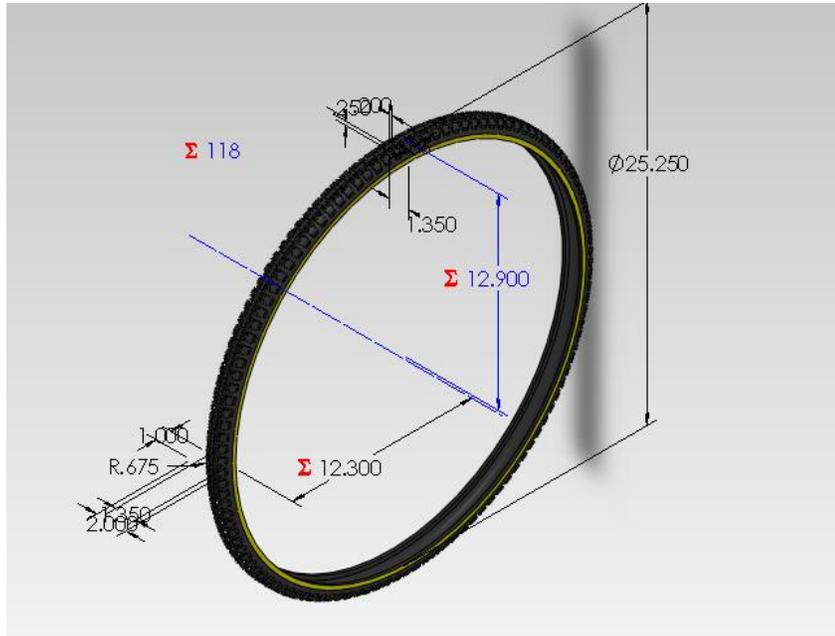
To make the gears, I used the dimensions here with the built-in design table within Solidworks.



To get accurate diameters without a caliper, I took the circumference of all the round objects. Then within Solidworks I just let it do the math with the conversion of pi to allow the most accurate input.



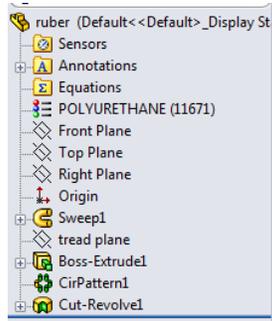
This drawing was used for the rim and the overall dimension of the wheel size.



While making the tread for the tire I decided to produce a set of equations to produce the number of the extruding features from the tread.



While making the tread pattern itself I used the mirror tool two times to allow for it to be one hundred percent the same without many properties.



After the part was build I did some research, since I did not know what tires were made of, I applied a material of Polyurethane to give it its appearance.

In conclusion, this project was challenging for me and everyone I talked to. I expected for this to be a long project, which it turned out to be; about 25-35 hours were spent on producing the final object. I used many new tricks that I did not know before starting the project. This I believe has also really improved my overall school habits and was a good project to do. The bike was a good group project (for sharing dimensions), however I think having students get in a small group (2 to 3) and buy a model car of their choice (approved by the professor) would be a different challenge. Allowing them to build something they like, and making a working to scale (1/16) model of their car that they could change to life size.