

Doughnut Stopper

Julia Silvia

5106Z

North Conway, NH

Summary:

Robots in this year's challenge have had problems with the doughnuts in this year's challenge. The doughnut's tend to get stuck under the wheels and slow down the robot when the robot is meant to be going as fast as it can. With this being such a big issue in this year's challenge, a solution had to be made. The Doughnut Stopper is meant to improve driving ability by stopping doughnuts from getting stuck under the wheels.

The Doughnut Stopper is installed to the front and back wheels creating a barrier to prevent obstacles from getting stuck under the wheels. It acts like a "snow plow" and pushes the doughnuts out of the way so the robot can drive smoothly across the playing field (See Images 1 and 2).

I used AutoDesk Inventor 2022 to create my new part (See Image 3). I used features like extrudes, fillets, and workplanes to make this new part. I also created a drawing file with dimensions (see Image 4).

I learned about iterations by creating a prototype and then testing it to determine its functionality. I also printed smaller pieces of a part to test them out thus saving time and material by not having to print out the entire part every time.

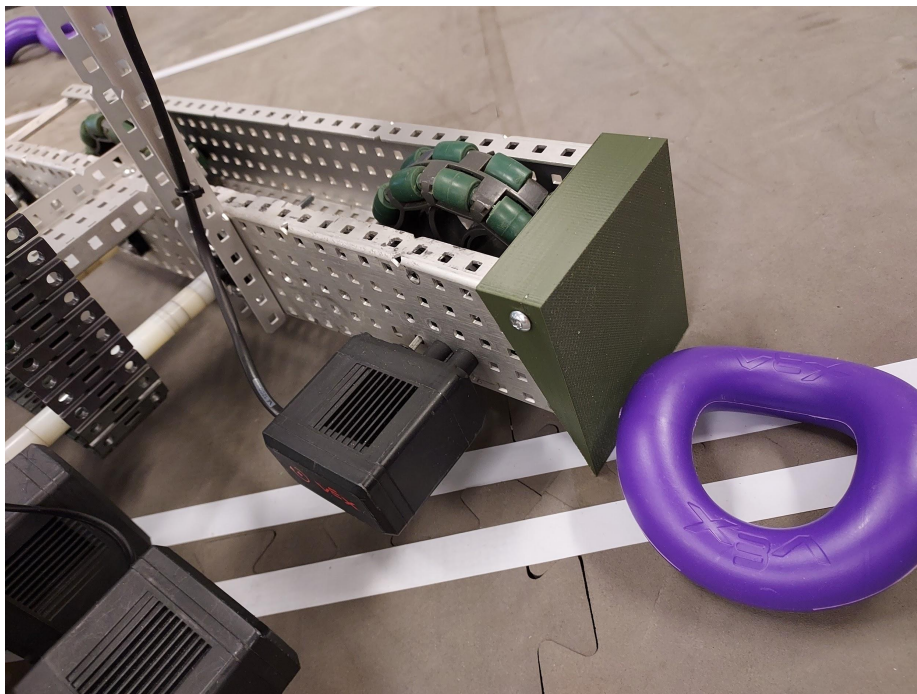


Image 1

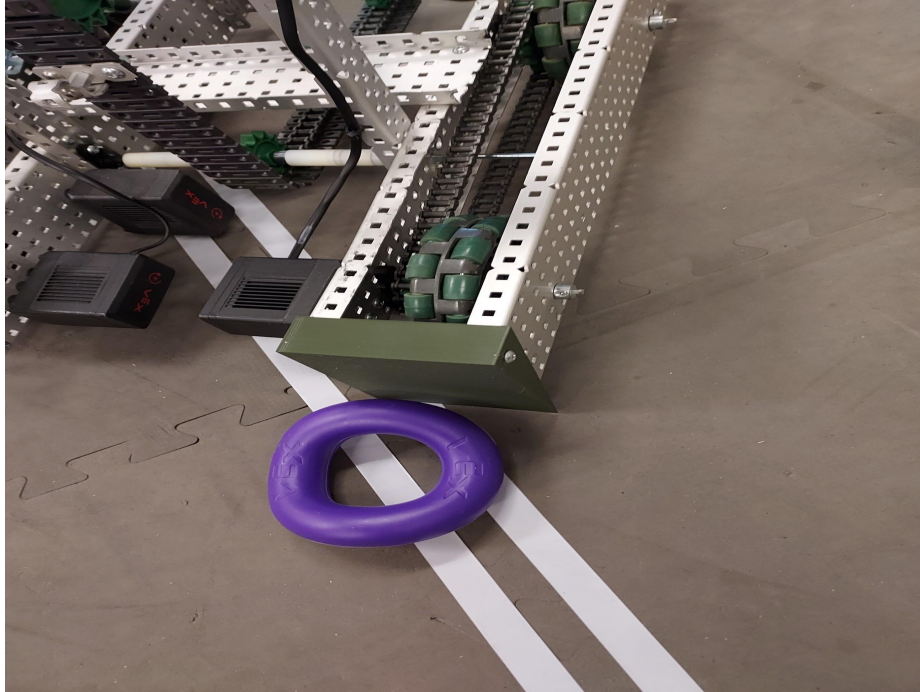


Image 2

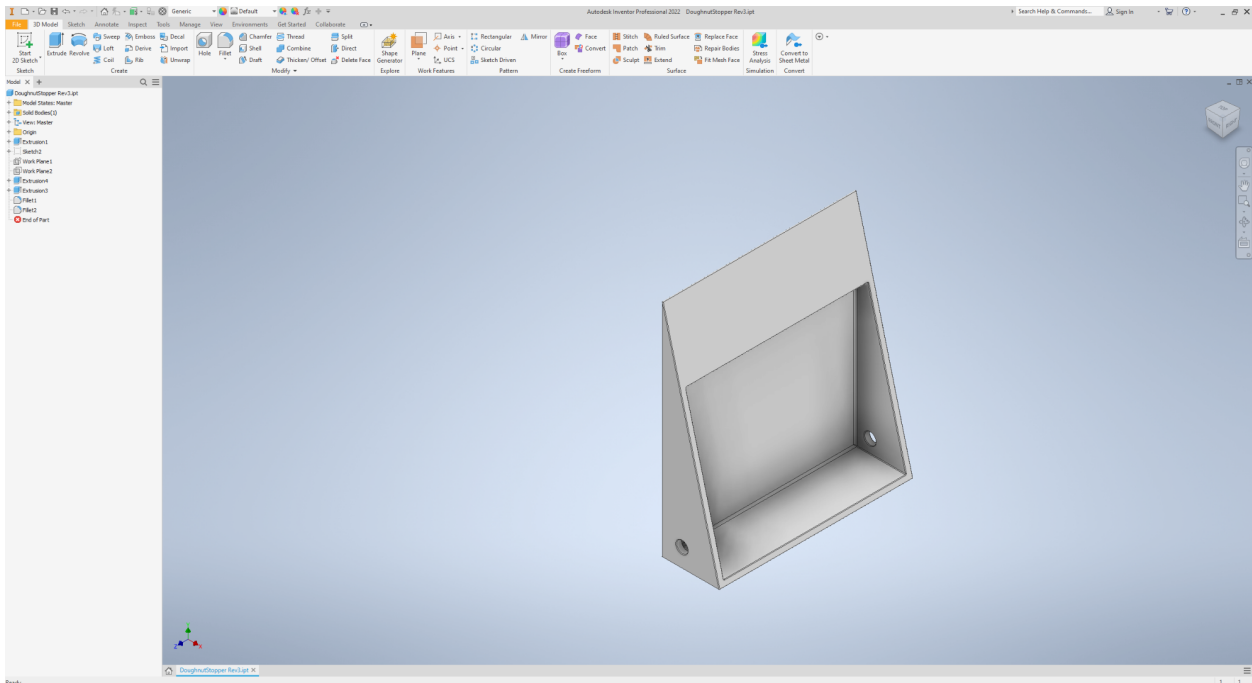


Image 3

