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Vex 4478B Online Make It Real CAD Engineering Challenge
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In the start of this year's Vex VRC season, we used a Vex angle gusset to hold our license plates. I realised that you could use 3d printing to create a much more aesthetically pleasing license plate holder. I knew that the part would need to display the license plate, hold the other color plate, and allow the user to quickly switch the plates between matches.

The front compartment would be used to display the license plate for the current match. The rear compartment would be used to hold the license plate of the opposite color during the match. The circular cutout in the back of the part would be used to easily remove the plate from the back compartment. The entire part would be screwed into the flat side of another piece of metal, one on each side of the robot

To design this part I used Tinkercad version 4.4. I first made measurements of a license plate and of a Vex c-channel to determine the dimensions. I then used tinkercad to build the part. I then downloaded the program and used my Prusa I3 Mk2s 3d printer to print it to fulfill the requirements of the bonus challenge

From this project, I learned more about how to use 3d design software, especially how to design a part with specific dimensions. I do plan to use 3d design software to continue to create my own designs to print on a 3d printer. When you are on a competitive robotics team the ability to use 3d design software is important because you can use it to design a robot without needing to actually build it, which helps you determine if the design could actually be built. I want to become an engineer, I don't know what type yet, but in most fields of engineering knowledge of 3d design software is extremely important it allows you to plan a design before building.