

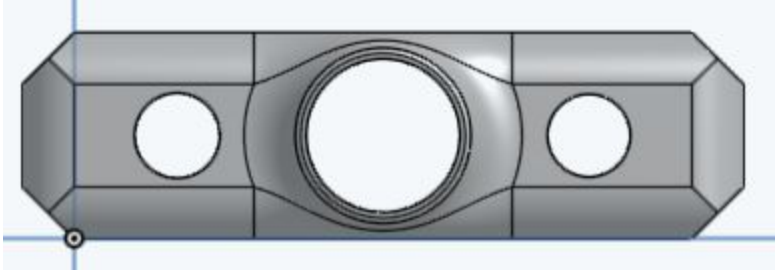
Team: 7447B, Retribution

Challenge: 2018 Make It Real CAD Online Challenge

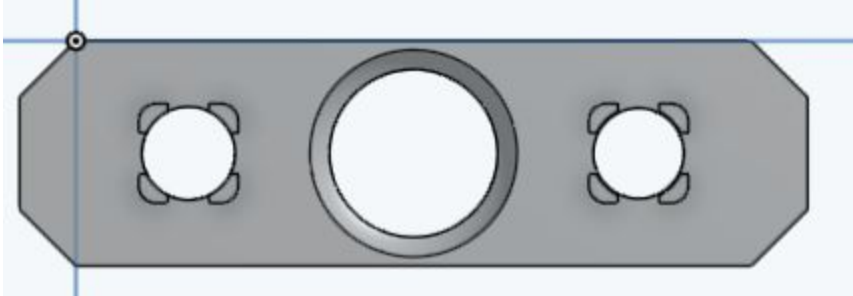
Part: Axle Encasin Bearing Plate

When we decided to enter the Make It Real CAD Online Challenge, we wanted to make sure that we designed a part that we would actually use. We started by thinking of a part of system that we were unhappy with, and all quickly agreed on the one that we would want changed the most, shaft collars. We disliked several things about them including the fact that the screws stripped easy and that in many cases these were the only things keeping axles inside the motors. We realized that a part that make the axle encased on both sides, one side is already encased in the motor, would be much more secure. To create he parts we used Autodesk Inventor 2016 Professional software.

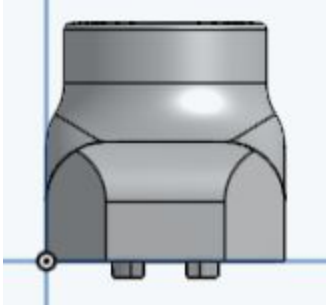
We started by modifying a bearing plate to have a wider opening and a tapered bottom. This will let the axle topper fit inside, but the tapered bottom keeps it from going all the way through.



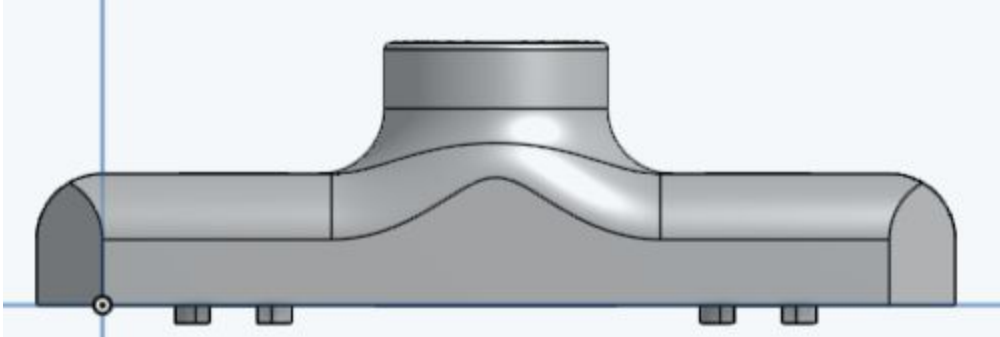
Top



Bottom

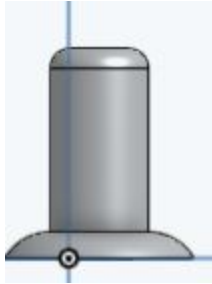


Front

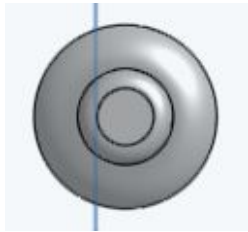


Side

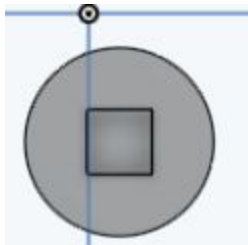
The second part was the axle topper. It essentially is just a small cover with a smooth, wide base that will not allow the axle to move in and out of the motor easily.



Front



Top



Bottom

These parts combine the function of two key pieces of hardware, bearing plates and collar shafts, making them an idea for saving time and space.