

Have you ever wondered if there was an easier way to protect your motors from external collisions and potential damages? Well, with this new gear that we created, there is a lighter and an easier way so that we can protect our motors.

This motor case covers 3 sides of the motor which helps with placing the motor on the robot. Although, you might think that the left outside would be at risk, well there is a removable 4th side to our case which assists you in a way that it is both easy to insert in the case, and it protects the motor just as well as the other 3 sides. This piece of equipment saves you from the method most teams use to cover the motors, which is making a handmade metal cage. The metal cage method might seem more efficient in protection, but it sure is more difficult to install it to your robot compared to our piece of equipment. Our protection gear is made up of a substance nearly just as protective as a metal cage. Some might think that the metal cage for the motors is too heavy, or covers up too much space, that is where our equipment steps in, because it is really lightweight, and it almost doesn't cover up any space. It might seem thin, or unprotective, but the resistant material that our case is made up of proves those thoughts wrong. Also, as you see in the pictures, one side of our case has a part which you can attach your cable to the motor with no damage or difficulty.

How we used it on our robot design:

As explained, this case is the easiest and the most efficient way to place your motor on the robot and also to protect it with the same piece. We used it to protect the ones that are located on top of our palette mechanisms. Before this piece was designed, our motors were defenceless for any damage and we were aware that they would get damaged when we tried to take the balls under the goals. So, we decided to design a piece to protect them, and this is the result. Now, they are ready and steady for any contact.

Fusion 360 process:

Firstly, we used Fusion 2.0.9313 version for our design. Using Fusion 360 for our design helped us a lot as we're having pandemic and we can not go to school and work together. Not just this piece, we designed our whole robot on Fusion 360 and we didn't lose time, we used our isolation time effectively to develop our skills on engineering and designing. We know that 3D designing will be part of our lives in the future as we are future engineers, and this has been a big chance to experience it!