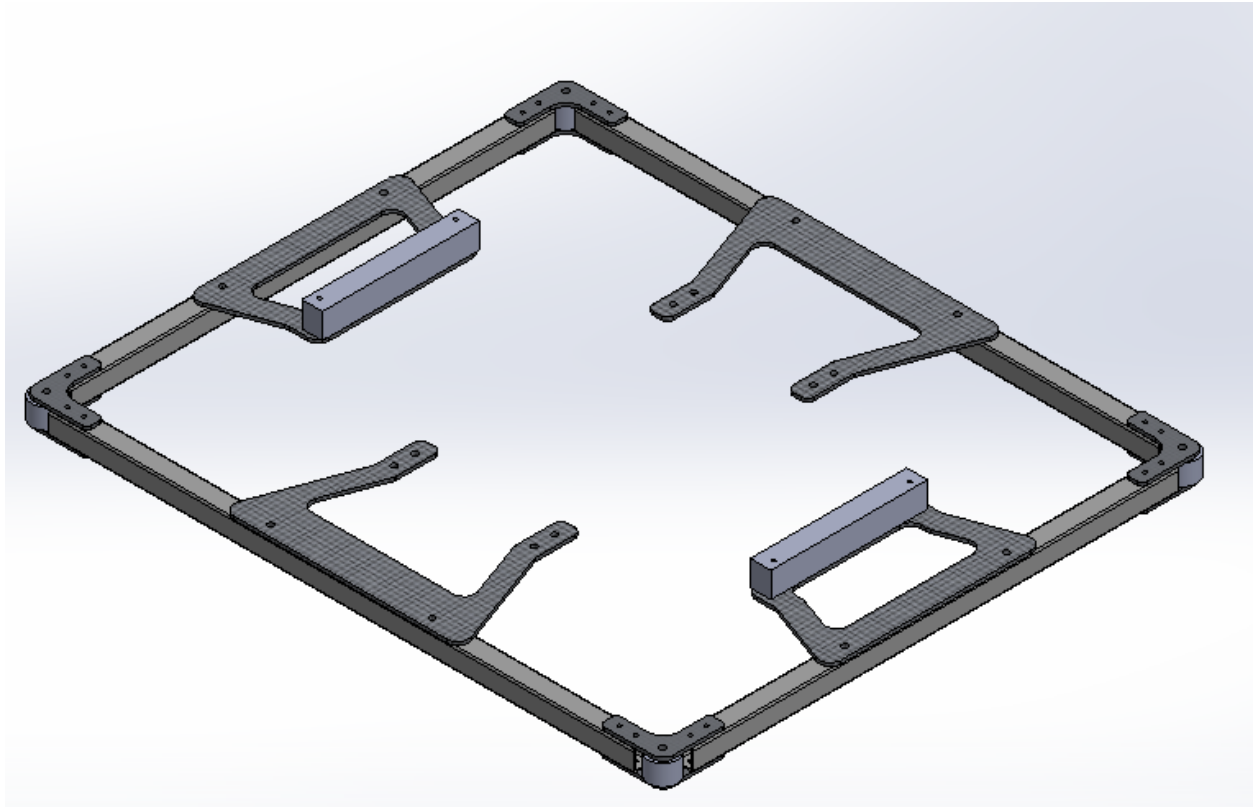
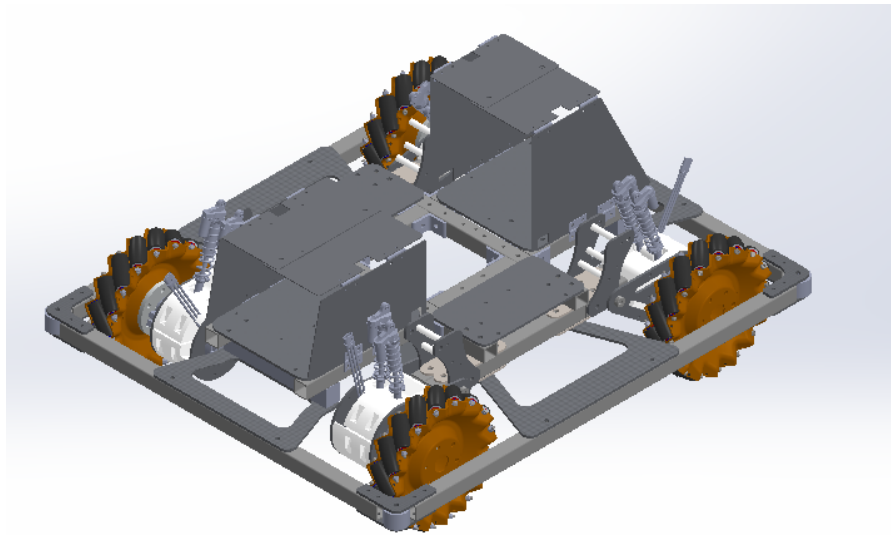


Infantry Protector Design v3

Written By: Roger Nguyen



(isometric view of protector)



(views in context to rest of chassis)

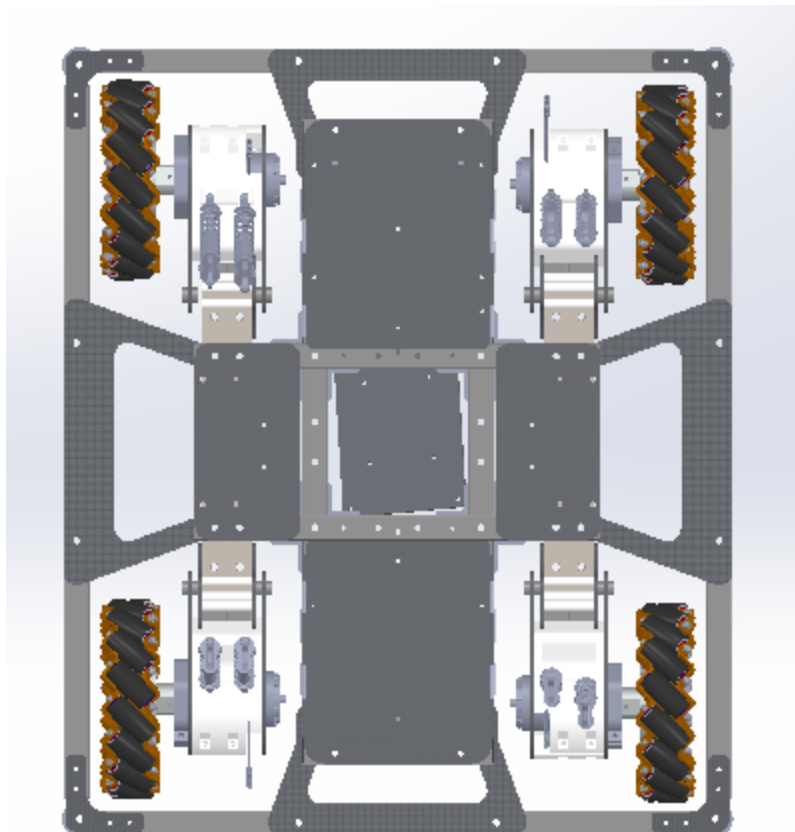




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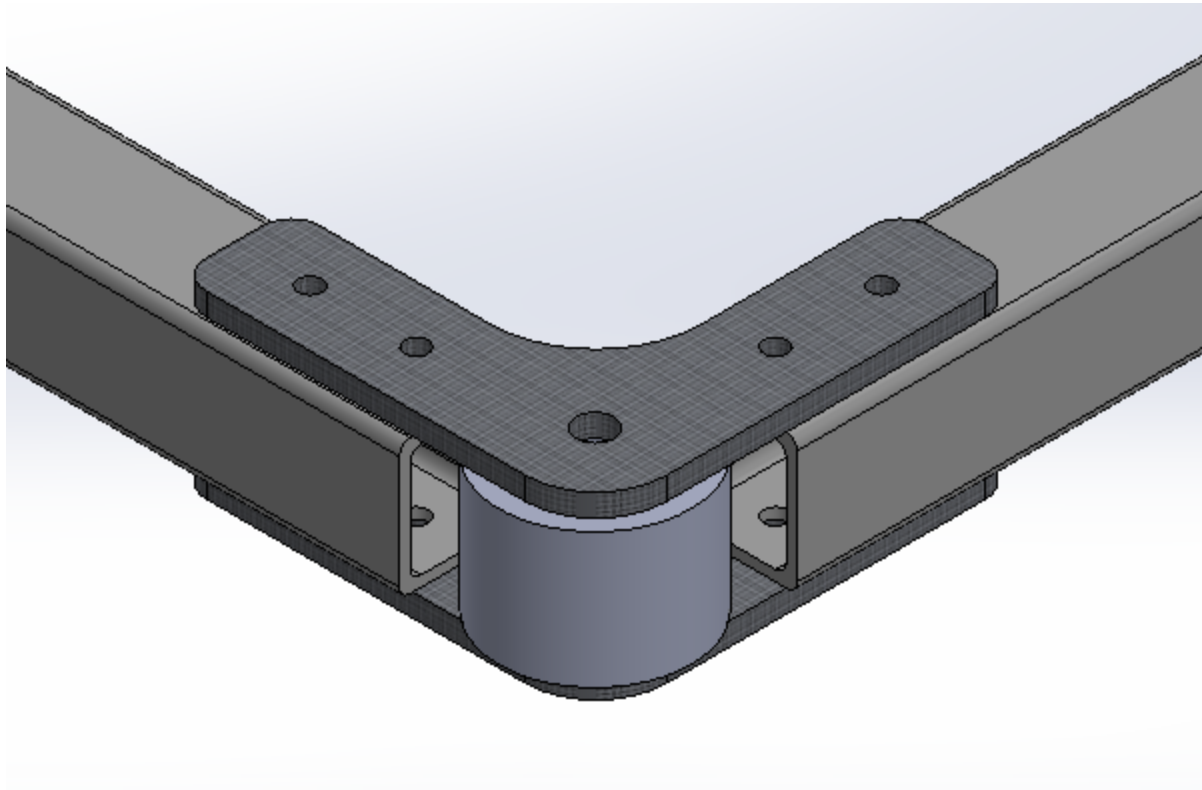
[1] Abstract

With the new chassis design, the protector has been designed in a way to cater towards the chassis as a result, design choices were made around the chassis design. In addition, multiple mounting holes were removed in order to reduce the number of fasteners, and subsequently parts required during assembly. Unlike previous design reviews, only significant changes will be documented. For more additional information, read [v2 documentation](#).

[2] Updated Parts

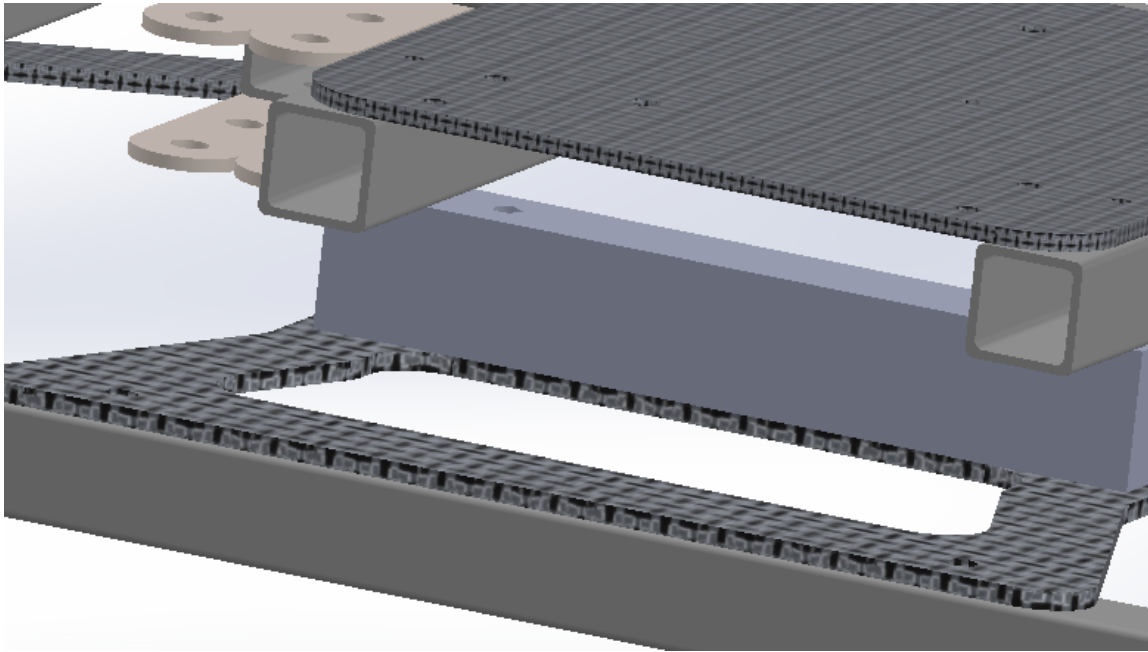
Most parts kept the same design and were slightly altered in order to match the size of the new chassis. For example, the square tubing and chassis mounting brackets were hardly changed rather than a few size dimensions.

[2.1] Rollers



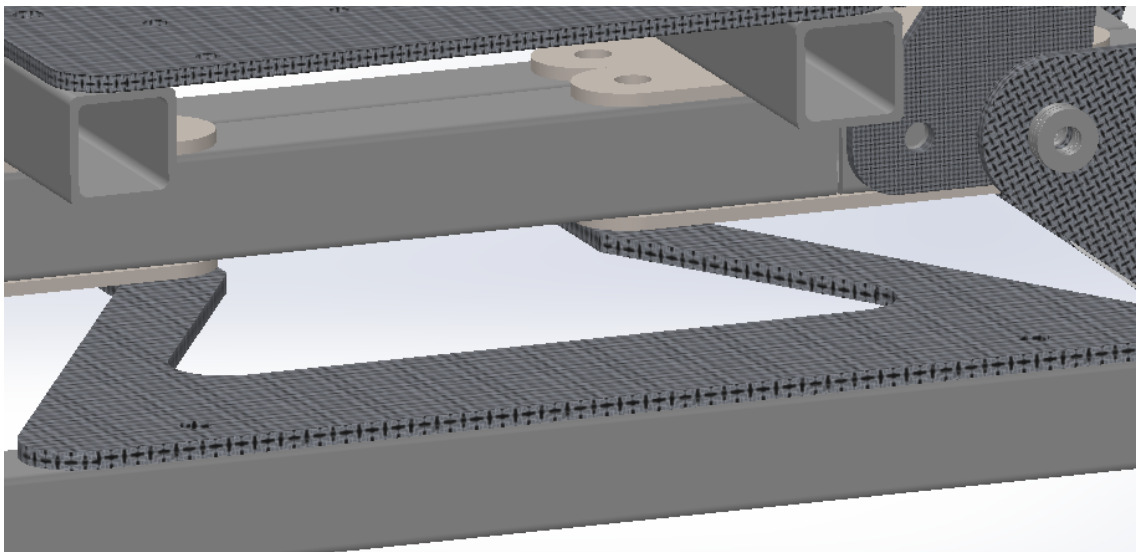
- The mounting holes for the roller brackets were reduced from 8 to 4 to reduce assembly time.
- The rubber roller was replaced with a 3d printed one due to the lack of space as a result of the competition rules.


[2.2] Mounting Block + Front Mounting Bracket



- In the previous design, square tubing was used to mount the protector onto the chassis; however, a 3d printed block was decided to be used instead to add more rigidity since it spanned the entire length of the bracket.
- This design choice was also used due to ease of manufacturability especially due to COVID restrictions where the machine shop is temporarily closed. By using 3d printed material instead of square tubing, there will be more friction for the threads.
- The bracket actually just mounts onto the mounting block in order for the protector to be more modular.

[2.3] Rear Mounting Bracket



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- By not mounting directly to the square tubing of the chassis frame, it will be much easier to disassemble the protector. This adds a level of modularity to the protector.