

Ratchet Rocker Robotics

Build Season in Progress

February 6, 2016



The Challenge

A new year, a new team, a new building, and a new challenge. Since the start of the season, the Ratchet Rockers have tackled this year's new medieval themed game head on. Stronghold, the 2016 FRC challenge, is played by two alliances, each consisting of three teams. The alliances compete against each other to weaken their opponents' defenses and capture their tower. Points are scored by crossing the opposing team's multiple defenses, launching boulders into the opposing team's castle tower, and by climbing their opponent's tower at the end of the match. The majority of points are scored with boulders, which are grey foam balls that are launched into goals located on each team's tower.



The Game Plan

Since day one, the Ratchet Rockers have been developing ideas and strategies to implement in Stronghold. After problem-solving as a team, we came to a final decision on our strategy for this year. We plan on building our robot to be offensive, making mobility and accuracy our two major goals.

The Ratchet Rockers now have a new swerve drivetrain, which will not only make our robot faster, but will also greatly advance our robot's mobility during competitions. The team members spent the summer of 2015 creating this drive train, and it is now fully operational and ready to use in competitions. We have also decided to design our shooter with a punching mechanism, so that we'll be able to easily launch boulders across the field with increased accuracy. We will primarily score points through the high tower goals, since getting a single boulder into a high goal is worth ten points. We plan on being able to launch boulders into the high goals multiple times in an efficient manner, enabling us to earn maximum points while we compete.

The Ratchet Rockers have decided to keep our robot under 1'4" tall. This objective will enable our robot to pass under the low bar, which is a defense that will consistently be on the field while we compete. Other defenses may be interchanged between the matches, so having the capability to go under the low bar will enable us to always pass the defenses. We also plan to



be proficient in one other category of defenses, since crossing multiple defenses will allow us to score more points. Robots have the choice to scale their opponent's tower to gain an additional fifteen points at the end of a match. Our team is striving to take advantage of this opportunity, despite the challenges that will have to be overcome.



Accomplishments

The abundant space that has been provided to our team has been used to build a replica of the playing field for this year's competition. Not only does this provide our team with a place to practice, but it also allows us to invite other local teams to practice with us. We have now designated Saturdays for inviting other teams to our space to practice and discuss strategies with us. We call this Coopertition® Saturdays. We have had many teams visit us already, including Raven 1288, Principia 5326, Channel Cats 1094, and Eagle Storm 6034. We have had very positive experiences with these teams, and expect more teams to visit in the near future.



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