



BONDS 581F

Welcome to our sixth weekly BONDS Status Report of the 2022 season, where we summarize what our team has achieved in each week of our build season! In this entry, you'll see what BONDS Robotics accomplished in the sixth week of the build season for the 2022 FRC competition, Rapid React!

Build Team

We made great progress this week on assembling our robot! On Monday and Wednesday, February 14th and 16th, we focused on attaching the climber pieces we had machined last week for the robot. On Thursday, February 17th, we worked on solving an interference issue we had with our climber's bearing. On Saturday and Sunday, February 19th and 20th, we had our first overnight practice of the build season! Having this extended period of time to continue working on manufacturing and assembling the robot proved to be very beneficial. We were able to make great progress with putting together the robot's superstructure, meaning that all we have left to work on is putting together the ball manipulator on our robot. We also fixed the misaligned holes in the gusset, which is a support piece that reinforces the space between our climber pieces.



This week, we also tested the two climber hooks that we'll put on the final robot. Unlike the prototype hook that we tested on the rungs last week, these two were much stronger. Even one of them will be enough to support the weight of the robot!

This week, all of our students had many opportunities to use equipment in our own shop! Both our X-carve and our Omio were used significantly, as well as our lathe and horizontal band saw. We've also had our mentors help us get parts manufactured

outside of our shop at the Wright-Brothers Institute, which we are very thankful for!

Diversifying where we have our parts manufactured has helped us save valuable time and ensures we have high-quality parts for our robot.



Company Talk at MTSI

On Wednesday, five of our students gave a presentation about our team to one of our sponsors, MTSI! Talking to companies is a rewarding experience for all of our students, as it's a chance to share what our team has achieved and learned over the years. Presenting to businesses also helps us build on our public-speaking skills, which will help us in college and in our future careers. We want to give a big thank you to MTSI for their support and for giving us the opportunity to share how we bring opportunities near Dayton students!

Programming Team

On Tuesday, February 15th, we added in the libraries for this season's robot code and started setting up both the drivetrain and climber subsystems. We continued making progress in programming during our combined Saturday and Sunday practice.

Electrical Team

During Thursday's practice, we made some crucial decisions concerning the placement of the electrical components on our robot. We planned what kind of motors we want to use and, based on our Computer Aided Design (CAD) files of our ball manipulator, where we want to place them. We also made plans to find out the position of our signal lights on the robot. The electrical team continued making great strides during our extended weekend practice.



Marketing Team

While the build, electrical, and programming teams were busy working on our robot, the marketing team spent this week working on other necessities we need for the

competition! On Tuesday, we brainstormed different ideas for this year's T-shirt logos, as well as compiled a list of all the marketing supplies we'll need for the competition.

On Wednesday, we began planning out our pit binders, which are essential for competitions. Every year, our team compiles the progress we've made during the season and organizes it into separate folders that we call pit binders. This year, we plan on having three pit binders. One will have information about our robot's mechanisms, programming, and electrical components. It'll also break down our design process by including examples of our CAD files and mathematical formulas of how each of our robot mechanisms functions. The second binder will have information about our marketing, demographics, and other information related to our outreach. The third will be solely for our Business Plan, which is a document that describes how our team functions financially. All three of these binders work together to show the judges at the competition how our team operates, so it is important that we organize them all to be concise and comprehensive.



We want to give a big thank you to all of our sponsors this year! None of this would be possible without you, as your support allows us to continue learning STEM values and to Bring Opportunities Near Dayton Students.

To see more of our progress throughout the season, please follow us on Instagram, Twitter, YouTube, and our official website! Stay tuned!



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