



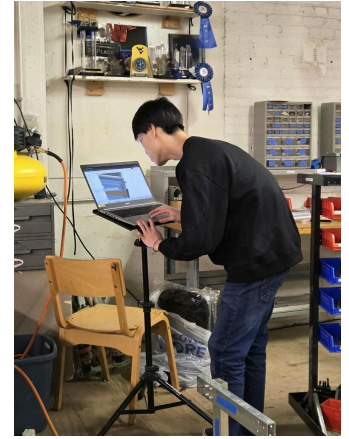
BONDS Week 6 Newsletter

2.11.24- 2.17.24

Introduction

Welcome to the sixth week of the BONDS Status Report of the 2024 season! In this entry, you will see what BONDS Robotics accomplished in the sixth week of our official season for this season's 2024 FRC competition, Crescendo!

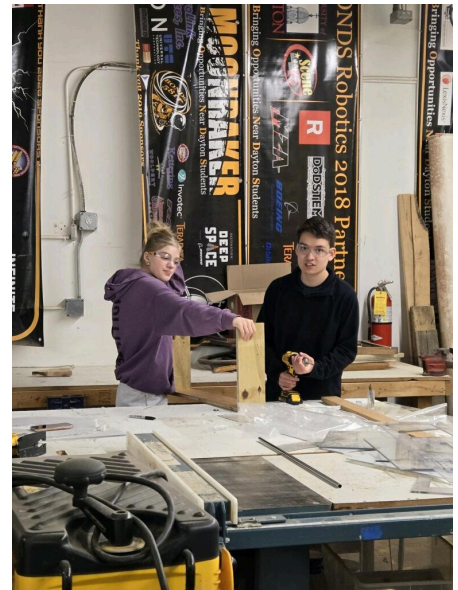
We have two weeks until the hardware lock! This week, our team accomplished numerous tasks and worked on finishing the robot before hardware lock. We also had a successful outreach event for girls 6th-12th graders who were interested in STEM values.



Manufacturing and Assembly

This week, we finished manufacturing and assembling the robot. Since we had less than two weeks to work on the robot, the team split into groups to assemble the robot promptly.

The first group worked on altering the indexer beams by cutting the aluminum tubing to length and using the Omio to machine the aluminum tubing. We also resolved a complication regarding the indexer's angle and attached the indexer's back plate and rollers. Another group worked on finishing the shooter mechanism and attaching the mechanism to the robot for evaluation with the programming team. Following the assembly of the robot, we had to analyze and test the different components of the robot. We discovered that the motor was hitting the 2x1 beam on the indexer. It also became evident that the motor on the shooter required less torque; however, the motor on the indexer required more torque. The motor mount also needed to be considered, as when testing the indexer, the back plate was forced onto the rollers because of the force it had been acting on.



Bumpers

Bumpers are a crucial component of the robot. Bumpers ensure the safety of people and other robots when on the field. The team started working on bumpers this week as competition is approaching soon. The bumper team cut wood to length, attached brackets, and taped the pool noodles on the bumpers for security. This week, we finished the back half of the bumpers and are ready to start on the front.

Women in STEM Workshop

On Sunday, February 18th, our team hosted a Women in STEM Workshop at Chaminade-Julienne High School for 6th-12th graders. We had eleven girls sign up for the event and had lots of fun! To start the workshop, we had a panel of female engineers (including our head coach) to discuss their careers and experiences as female engineers. We had a great discussion with the panel and gained an understanding of women in STEM careers. After the panel, we had different stations such as STEM challenges, driving a test chassis by the BONDS team, architecture challenges, and a station run by an all-girls FLL (FIRST Lego League) Team who are competing at state championships next month! This event was a great success, and we hope the girls had a fun time during the Women in STEM workshop event.



Sub-Teams

Business Team- The business team worked on ordering t-shirts and sweatshirts for this year's competition. At

CAD Team- The CAD team assisted the build team on the shooter and indexer mechanism.

Electrical Team- The electrical team wired the shooter and indexer. They also wired the signal light and radio module on the robot for the programming team to test.

Marketing team- The marketing team organized the Women in STEM workshop and prepared the necessary items for the event.

Programming- After the electrical team wired the robot, the programming team began testing the shooter and indexer mechanism to examine the motor gear ratio and troubleshoot the robot's different components.

Closing Words

We want to give a big thank you to all of our sponsors! Our team can compete because of your support, and none of this would be possible without our sponsor's help. BONDS will continue improving and learning STEM skills and values this season. To see our season's progress, please follow us on Instagram, YouTube, TikTok, Twitter, and our official website for weekly newsletters.