

Sponsor Update!

03/05/2022

# The Thunder Press

[www.ThunderChickens.org](http://www.ThunderChickens.org)



## What's New at the Nest?

Since our last issue the team has surpassed our prototyping phase and is on to building the final components of the robot.

As we reach the home stretch of our build season, we take the time to look at a series of difficult challenges that had stalled the progress of the mechanical department.

The first part of making the final product was starting the mechanical department on the final components of the robot. This includes building our drive base with material from our metal fabricator sponsor, Detronic Industries Inc. Additionally, we had a part of our build focused on building climber arms for the End Game phase of competition matches. During the build we encountered many challenges. The first of these challenges included manufacturing plates. When we were making the climber mounting plates they had to be made with our CNC machine which

would have running issues. Another part was when our manufactured components didn't fit right to our design.

Another challenge posed to the mechanical department was the climber's design. Repeated testing on the climber showed it could touch the highest bar, however the climber could not latch onto it because the climber hooks were uneven from each other. It was up to mechanical and design departments to figure a way to make a hook that stayed on the bar and supported the whole robot throughout our climbs. With our new modifications, the climber was finally able to grab the final bar. It was subsequently taken off of its prototype wooden frame and now being mounted on the robot.

In turn one successful component was our shooter which was finished earlier. Our shooter includes intake and output of Cargo. With that being said it was at this time to send it over to the

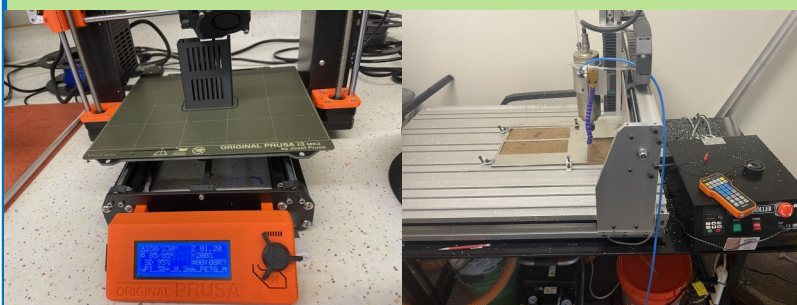
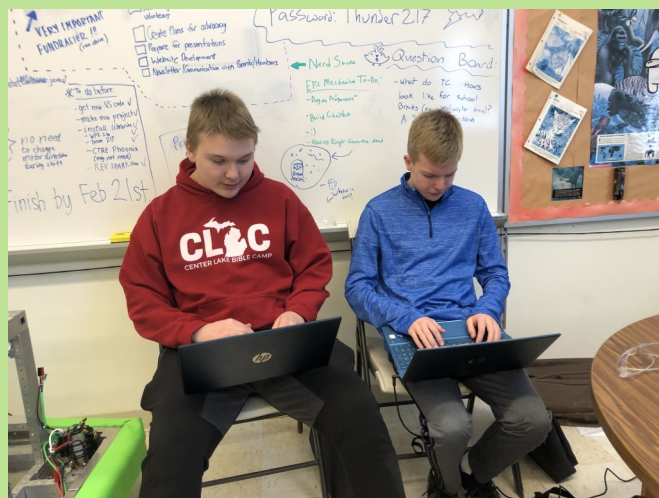
electrical department to wire its components such as its motors. By wiring this component it would save time and allow easier assembly of the completed robot.

While the Mechanical, Design and Electrical worked on the tasks at hand the Programming department have been hard at work coding lead by programming leader, Noah Vermeulen, the department worked on teleoperation, autonomous and implementing a NavX2 (AHRS Module system) sensor. New programming team members have been receiving training from Noah and studying past years robot codes to better understand the technical aspects of coding.

Also thank you Sydney Bely, Parts Head, for helping order the rest of the final robot parts, which we received from our suppliers, Vex Robotics, McMaster-Carr and Andy Mark. We are good on parts for the rest of the percepti-ve season to finish up the final robot.

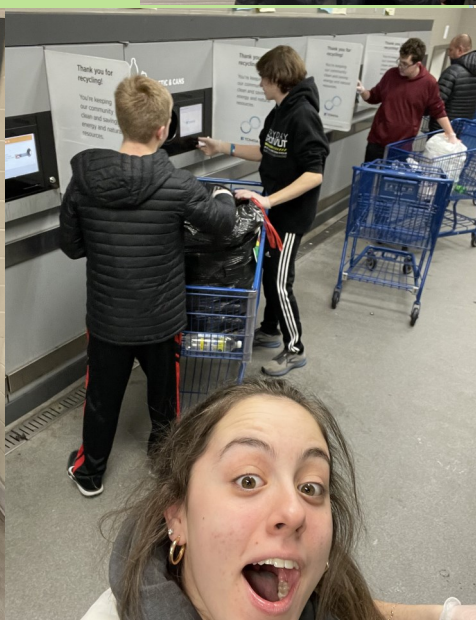


Our programmers Daniel Wolf (left) and Nathan Schultz (right) are focused on the difficult task at hand, preparing our robot's code using VS Code for this season's competition. "Programming is super fun and we've made a lot of progress by learning from previous robot programs," Nathan Schultz.



Here at ThunderChickens, we use the innovative technology of 3D Printing and CNC Routing to make parts that are specially designed for our robot. In the left picture, we have a raspberry pi case being printed, and in the right, our CNC

Since the last issue, we've had a successful team Can Drive with donations from team members, families and others in the community. We collected a ton of returnable. This helps raise money for team supplies and competition costs. "It was a really fun experience after a long day of working at robotics," Jacob Thomas.



## Meet the Student Executive Board:



**Sydney Bely, Senior**

Sydney is a fourth year member on the team and the current head of parts. She ensures the team is organized with the hefty amount of parts that come in day by day. With her help, the team can be efficient when it comes to finding certain parts. Recently, Sydney has assisted in building the intake, shooter, and storage portions of the robot. She also has helped the business department with their "Bottles for Bolts" can drive, by transporting the cans to be raise money for the Houston trip.

**Ava Harvey, Sophomore**

Ava is a second year member, who leads our mechanical department. She has shown initiative this season by overseeing a prototyping group. Their group was deemed successful as their prototype was eventually used as a layout for our competition bot. Being well versed in the various tools and machines found in the build area, Ava is able to share her knowledge with incoming students and set an example for a leader on our team. She has been a great asset to the team with her useful input and knowledge.



**Gabe Weichert, Senior**

Entering his fourth year, Gabe is our current director of electrical. Gabe show his initiative by taking every opportunity he can to teach his peers about the basics of electrical engineering. His love for sharing his knowledge has made an impact on peers who are interested in electrical engineering. By coming in nearly everyday, he is able to help out the mechanical department when they are in need. He also assists in the business department with his research on advocacy to spread the importance of STEM and robotics.

## Our Competition Schedule:

Event	Dates	Location
Saline District Event	March 26 & 27	Saline High School
Macomb District Event	April 1 & 2	Macomb Community College South Campus
Michigan State Championships	April 14 – 16 (assuming we qualify)	Saginaw Valley State University
FIRST World Championships	April 20 – 23 (assuming we qualify)	George R. Brown Convention Center Houston, Texas

As of now, the public is invited to attend competitions in person. If you'd like to join us, please contact Alex Lecea ([alecea@gmail.com](mailto:alecea@gmail.com)) and we will arrange for a tour!