

Build - Week 1 Newsletter



MVRT dived into the build season, working hard to come up with a robot design on the engineering side of things and establishing our awards team on the operations side of the team!

Kicking off the season on Saturday 1/4/25 and Sunday 1/5/25, MVRT watched the game reveal as a team and split into subsystem groups to begin brainstorming, drafting on working on a design for the

robot. Furthermore, game strategy was also discussed.

As MVRT made its way through the first week of the build season, the engineering team kicked off with the drivetrain where they had three spare swerve modules, which they took one off of from the old competition bot. On top of this one of the motors on the swerve module was changed since it was a Kraken module updated to a Falcon, finally the shaft on the motor was also updated as it was getting loose. However, one of the wheels was faulty and had to be reassembled, the team will continue fixing it until the parts arrive on Monday.



On the climber side of things, two countless ideas were discussed and it was narrowed down to two. Either gripping the cage or pushing off the bottom of the cage. This decision was further revised after the team decided to go with the latter option, developed by the Penn State robotics team. After finalizing the climber design, ideas to prototype and test variations of it were worked on as well. After coming up with a cohesive design, the team worked on building the cage and

the claws for prototyping. Finally, as the week wound down, detailed layout sketches were made for the climber and variations to the Penn State climber were considered as well.

On the algae/coral game components side of things, a cardboard reef was built for prototyping and testing, while parts were machined and prototypes for the algae and coral



manipulators were built as well. On top of building the prototypes they had to be tested! The testing was done to determine the amount of compression, and angle of intake on the algae and coral, as well as the vertical vs. horizontal approach to picking up the algae. After testing it was determined to go with a vertical manipulator.

The engineering has countless tasks to continue working on including finishing layout sketching and a full CAD of the

bot. As well as machining parts and finishing a version 1 assembly.

The operations side of the team continues to work hard on the Impact awards. Developing individual sub-team for the awards that MVRT will participate in during the 2025 season. This includes documentation, an impact video, a binder, executive summaries, sustainability, woodie flowers, and the impact speech! With these countless parts to work towards the impact team continues to work hard!