

Metal Crusaders Engineering Notebook 2021

Team 5293

January - Today 2021

Contents

1	January Workdays	3
1.1	January 23, 2021	3
1.2	January 27, 2021	3
1.3	January 28, 2021	3
2	February Workdays	3
2.1	February 2, 2021	3

1 January Workdays

1.1 January 23, 2021

Took off climbing arms and removed pins, all for possible future use. Also removed the wench. Took off the old hopper since it needs improvement because the robot needs to be excellent at collecting power cells—especially this year.

Also discovered a way to allow for a new hopper design and keep the back-up camera. We changed the airflow that used to go to the pistons in the climbing arms to the pistons that are for the intake system.

1.2 January 27, 2021

Created a belt system to pull the power cells. Installed the hopper, but was unable to hook it up to the drill. The hopper can take in a power cell.

Intake: 7.5" tall and 6.5" to the middle of the belt. Using Velcro before making the official belt—alligator lacing.

Haven't worked on the motor.

Our objectives:

- **Finish the hopper prototype and install it onto the robot.**
- Motor for the intake.
- Change piston placement; stop piston from hitting the motor.
- Shooter placement: must be straight shot from hopper.

1.3 January 28, 2021

Used rectangular prism pieces to fit on the wheels. Also finished the hopper prototype; tweaked the angle.

Some observations:

- Hopper system is too tight, height is decreasing too far.
- Need spacers.

2 February Workdays

2.1 February 2, 2021

Game Design:

Picked our theme: Avengers Endgame (and maybe we could use the chain as a "snap"?).

Innovation Challenge:

Our main problem to focus on is loneliness; see the innovation portion for more information about it.

Other Updates:

Continuing to test the hopper.