



FRC TEAM 1189

EST. 2002

gearheads gazette

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It's Alive!!!

Boulder Ballista

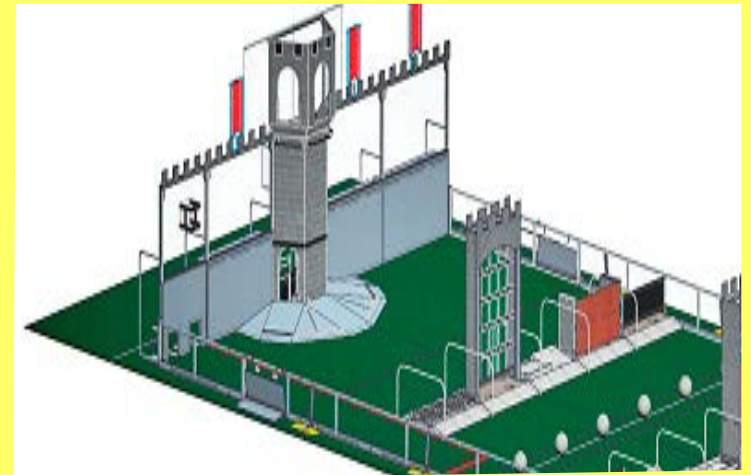


Outer Works



Co-Captains Montana and Rey on the Drive and Frame

We are building a six-wheeled independently powered tank with 8 inch Pneumatic wheels. The reason why we have it is because of the obstacles we are going to have to go over. We saw the potential for weight issues, a square frame with 6 wheels should keep it from teetering too far forward or to far back. We didn't have enough wheel power on our robot. We didn't go with the Mecanum wheels like we did last year. It wasn't necessarily that they wouldn't have enough grip but the type of wheel it was it wouldn't get us over because they were to small. This chassis is much higher and is 7 inches from the ground. The one from last year was only a couple of inches away from the ground.



Team Captain Aiden on 4 vs 6 wheels

We started prototyping with four wheels because we had a basic structure and fram already built (last years back-up chassis). We wanted to test how successful it would be with our already built thing. It proved that the pneumatic wheels could work, but it (4 wheel chassis) didn't work as well as we'd hoped. We tried six wheels to see if it worked any better. We also found that positioning the wheels slightly forward that the six wheels was much more effective crossing obstacles than the four wheels were.





Award Submissions

This year, the Gearheads are striving to win copious amounts of awards. For our first year ever, we are applying to the most prestigious award FIRST bestows: the *Chairman's Award*. To be the winner of the Chairman's Award, a team must present unique qualities all while promoting STEM in their community and FIRST ideals, such as gracious professionalism and inclusiveness.

As well, the Gearheads are applying to the *FIRST Entrepreneurship Award*, which asks for a team to outline its business plan, the team's general strengths and weaknesses, and how the team plans

on improving; the Dean's List Award, which recognizes a 10-11 grade student that are highly dedicated to their team; and the Woodie Flowers Award, which celebrates mentors who lead and inspire. It can be a thrill to just win an award alone; but if by chance the Gearheads win at the "Worlds" level, we could be a FIRST Hall of Fame team and automatically be invited to the World Competition every year. Wish us luck as we submit the final round of award applications.

We're all Gearheads!

MEET THE MENTORS:

DR. EILEEN REICKERT

How many years have you been involved with Gearheads?

I started mentoring 3 years ago for the FTC team. I just started mentoring for the Gearheads this year.

What do you do when you're not in Gearheads?

I am a family physician.

What do you get out of Gearheads?

I have so much fun with the students talking STEMS. Talking about STEM and encouraging them to do what the love.

What made you join Gearheads?

I have 3 sons that love robots, so I've been helping out with robotics since 2008. I joined the mentor team this year because there would be more females and I knew there would be more work.



MRS. KELLY PATON



What do you contribute to Gearheads?

I help with fundraising and coordinating people.

What made you join Gearheads?

My daughter is the reason I joined Gearheads. At first, I thought this was battlebots. Afterwards I discovered what actually went on in Gearheads and I was amazed.

What do you do when you're not in Gearheads?

I'm a social studies and science teacher. Also I am a coach of the FLL (First Lego League) team at Brenda Scott Academy.

What do you get out of Gearheads?

It helps give me purpose. Being in Gearheads is very worthwhile. The best part of Gearheads is seeing the innovations of the team.

NOT JUST ROBOTS

Outerworks field elements

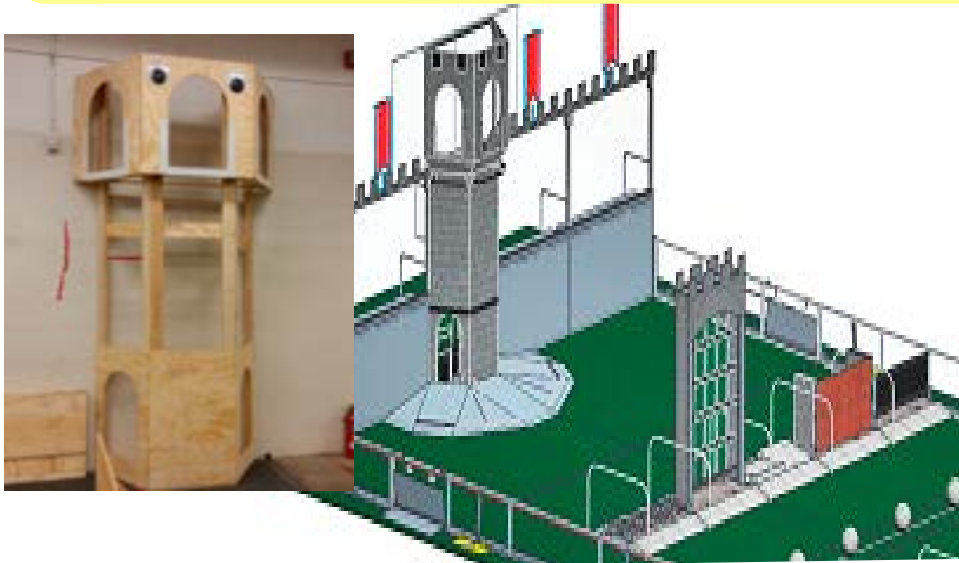
To test out drive and frame design, as well as any shooter or scaling mechanisms, it was necessary to build working models of the outerworks defenses that could appear on the field. The outerworks include the following elements:

- Portcullis (A)
- Cheval de Frise (A)
- Moat (B)
- Ramparts (B)
- Drawbridge (C)
- Sallyport (C)
- Rough Terrain (D)
- Rock wall (D)
- Low Bar

In each match the field will be reconfigured according to a mix of crowd participation and voting and opponent selection.

It is necessary to breach the outerworks in order to shoot boulders at your opponents tower. Also, points are collected for every defense that is breached at least twice from the neutral zone to enter your opponents courtyard to shoot the boulders and to scale their tower once the tower is sufficiently damaged.

Thanks to Mr O'Grady and Mr. Howes who helped a lot with wood work they did at home.





Running a team and building a robot (though we do more than build robots here at Gearheads) takes a tremendous amount of effort and money. We could never have achieved what we have for the past few years without the aid of our many sponsors and supporters. From corporate sponsorships and grants, to gifts-in-kind, and free software and hardware, we rely on the generosity of others to maintain this valuable asset for our schools and our community.

If you are interested in making a donation to the operation of our team you can write the team a check (make it payable to Grosse Pointe North High School, memo line for Gearheads). You can also make the donation through the Grosse Pointe Foundation For Public Education, a 501c Tax exempt non-profit in order to make your donation tax deductible.

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