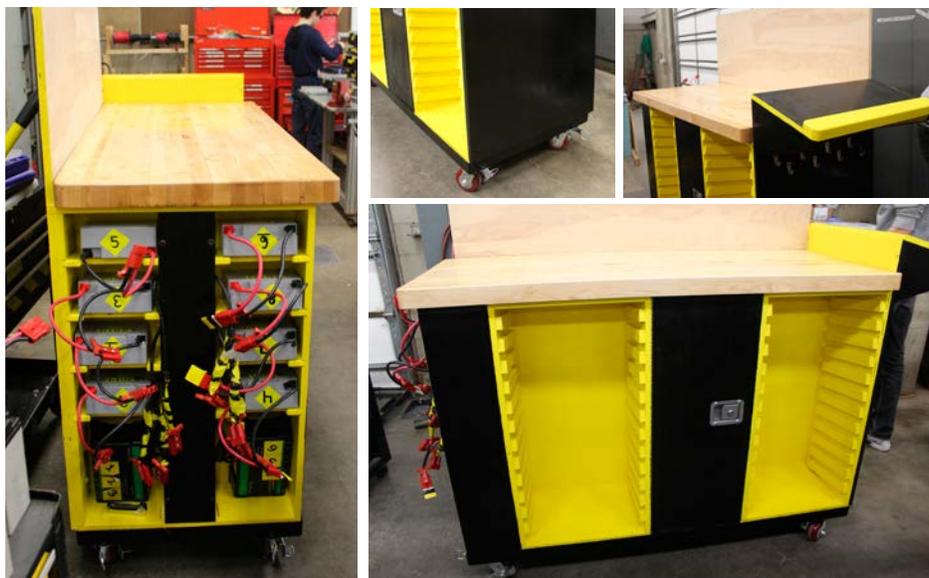




# GEARHEADS GAZETTE

FRC Team 1189 | Established 2002



**LAST SEASON, OUR PITS MET AN UNFORTUNATE AND MESSY END AT THE HANDS OF A FEW TEAM MEMBERS. WE DO NOT MOURN. WE REBUILD. BETTER. STRONGER. WITH BETTER STORAGE.**

## PITS SMELL OF FRESH PAINT, DREAMS

*Anna Karcher*

### Progress Report

Website 2.0 is live.

Superstructure is laid out. Build is currently grinding the arms.

Safety presentation complete, MSDSSs under construction. Developing fun new ways to keep us alive.

Fabrication has completed most arm parts.

Controls finished LED code, set up 3D printer, made layout for control board, and began work on dashboard.

Day 29

For the 2015 game, Recycle Rush, FIRST threw away the old manual and wrote a whole new one. So we decided to do the same. This year, our team tossed, smashed, and threw away our old pit design ("pit" refers to the 100ft<sup>2</sup> space each team is allowed for their robot and any other tools they may need during each competition). After the dust cleared, some of the Gearheads got together and compiled a list of things that we need in the pits. Then Mr. O'Grady and his son, Josh, took that list home and got to work on a structure to fit all of our requirements. Before even thinking about what materials to make it out of, a suitable layout had to be made in Solidworks (a virtual 3D modeling program). After showing the finalized design to the team, the O'Gradys got to work. Kindly lending their own garage and time, they turned the Gearhead-approved design into a new set of pits.

The new set of pits, looking just like another member of the team after a few coats of black and yellow paint, will hopefully make working in the pits more enjoyable for team members. Pit 2.0 is easier to move, to keep neat (and by extension, safe), and more convenient for the members to use. The whole unit is mounted on locking casters with lockable swivels, for increased maneuverability in the game venues during competition season. In addition, the unit has been set up so that only one cord is needed to run electricity to the entire mobile setup. This includes 2 separate 6 station power strips (to avoid tangled wires and accidental unpluggings), 8 battery charger stations (separate from the power strips) and the lighting in the lockable cabinet. That single connection not only streamlines the pit set-up and tear-down process, but allows for less cord-related malfunction due to quick motion. In addition to the technological improvements, the organization system has been revamped to include better parts bins, coat hooks mounted under the laptop stand, and locking cabinets with shelves and internal lighting.

This unit will be far harder to destroy than the last one, and early opinion seems to be that nobody will want to.

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FRC 1189 - The Gearheads



# ASK HOWIE: AI ADVICE COLUMN

*Relayed with the help of Josh Kozakowski*

*Dear Howie,*

*I've been trying to make more friends lately, but I'm having a lot of trouble interpreting people's body language. I just can't seem to figure out what people mean! Do you have any tips on how to get better at figuring out what people are really saying? I just want to be able to know what people think of me without constantly asking.*

*-Needs an Interpreter*

Dear Needs an Interpreter,

You are allowed one Team LED. This indicates ALLIANCE color, ROBOT status, and E-Stop status and is centered at the top of each PLAYER STATION. Team LED states include:

- Solid - indicates that the ROBOT is connected and enabled. This will only happen during a MATCH.
- Blinking - indicates that either the Field Management System (FMS) is preset for the MATCH or because it's during a MATCH and a ROBOT has lost connectivity.
- Off - indicates that MATCH has not started yet, but the ROBOT is linked and disabled by FMS. When the amber colored LED is lit, it means that the E-stop button has been pressed.

*All advice from the ROBOT is taken directly from the rules from this year's game. As a way to reacquaint ourselves with the rules, we read through them to find a response to the question posed. If you need any advice, please feel free to tweet us, drop us a facebook message, or ask a nearby Gearhead to bring it in for you.*



## MEET A MENTOR: SEAN O'GRADY

*Audrey Kam*

Mentor Sean O'Grady may have only been with our team since last year, but he has spent the last eleven years working with FIRST and mentoring within the program. After having moved to Grosse Pointe, and subsequently beginning his work with us, Mr O'Grady has taught us all of his accrued

expertise in design, pneumatics, electrical wiring, fabrication, build, and leadership. His favorite piece of advice, "Step outside your comfort zone, learn something new" showcases his extensive experience with the FIRST program, wrapping up the gist of the true point of this organization. For an institution dedicated to learning, and especially to the encouragement of growth in STEM fields, mentors such as Mr. O'Grady who prioritize the "Aha! moment" that each member of each team is capable of experiencing, are appreciated. We are truly fortunate to have him on our team, and are grateful for his time.



# ASK ODD-JOB: AI ADVICE COLUMN

## KIM'S KORNER: THREE SUPER SAFETY TIPS

Josh Kozakowski

Dear Oddjob,

I have recently bombed my Calculus and Biology midterms. I have accepted this reality-- but my parents haven't. They are sticklers for good grades and would freak out if they learned how I did. They previously stated that if I didn't get all A's, I would not be able to drive or see my friends for a month. Should I break this to them gently or conceal it?

-Dead Man Walking

Dear Dead Man Walking,

You must remember that certain actions deserve certain penalties. You were notified of them at the beginning of the season. Your failure to comply leads to your reduction of points. I suggest a defensive strategy to keep the opposing team from gaining the advantage. Have fun with Recycle Rush and Good luck!

*All advice from the ROBOT is it's own opinion. It is a robot, so it's advice may be emotionless and only apply to robots. If you find that the advice supports the overthrow of the human race, please tweet us your concerns.*

#1: Wear Closed toed shoes!

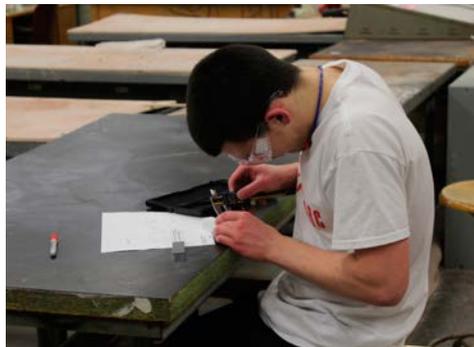
So that you can make sure that your feet don't get scraped and you have extra protection as well!

#2: Wear nice fitting clothing!

Wear nicely fit clothing so that it doesn't get snagged and caught on anything.

#3: Watch out for Ice!

Watch for ice so that you don't slip and fall, it is winter after all! look before you leap!



## MEET THE GEARHEAD: MONTANT PATON

**What brought you to Gearheads?**

I joined because my dad is an engineer and I thought what he did was cool.

**What do you hope to accomplish from FIRST?**

I hope to become captain of Build and build things.

interviewed by Erica Powell

# MEET OUR MENTORS

*Erica Powell*

The Gearheads rely on the parents to support us and mentor us. Without our parent-mentors/helpers, this team would be a big mess. They help us keep this team alive.

Build, being a rather large section of the team, has two parent mentors, Jeff Santrock and Dan Paton, parents of Nick Santrock (build captain) and Montana Paton (build member). Mr. Santrock and Mr. Paton give tips on assembling the robot based on its design.

Our design section parent is Sean O'Grady, father of Josh O'Grady (build member). Mr. O'Grady mentors design by teaching Solidworks (our virtual 3-D modeling software) and helping with any pneumatic related issues.

The parent mentor of controls is Ken Pearce, father of Zach Pearce (controls member). Mr. Pearce helps write codes and teaches coding to new members.

In the last section, the media parent mentor is Eric Kam, parent of Audrey Kam (media member). Mr. Kam approves media work, checks up on social media updates, and helps with Gearhead Gazette article ideas.

Though, those are all our section mentors, we have other parents who support the team in other ways. Kelly Paton, mother of Montana Paton, is one of our teams "go-to" mothers. Mrs. Paton is currently in charge of ordering our team's t-shirts and sweatshirts. Dr. Reickert, mother of Aidan Reickert, isn't just a mentor of our local FTC team, Blown Fuses #7045, she also assists our team by organizing drivers for competitions. With her joyous character, she is our spirit mentor.

Last, but certainly not least, we have Lauren Wilson and Paula Price, mothers of Evan Wilson (controls member) and Matt Price (build member). These mothers help out with our Saturday team dinners, by setting them up and making food. We would also like to acknowledge parents. Thank you parents for your contribution to the team!



## MEET THE GEARHEAD: CONNOR KEITH

**What brought you to Gearheads?**

I joined for fun and I thought that building a robot would be cool.

**What do you hope to accomplish from FIRST?**

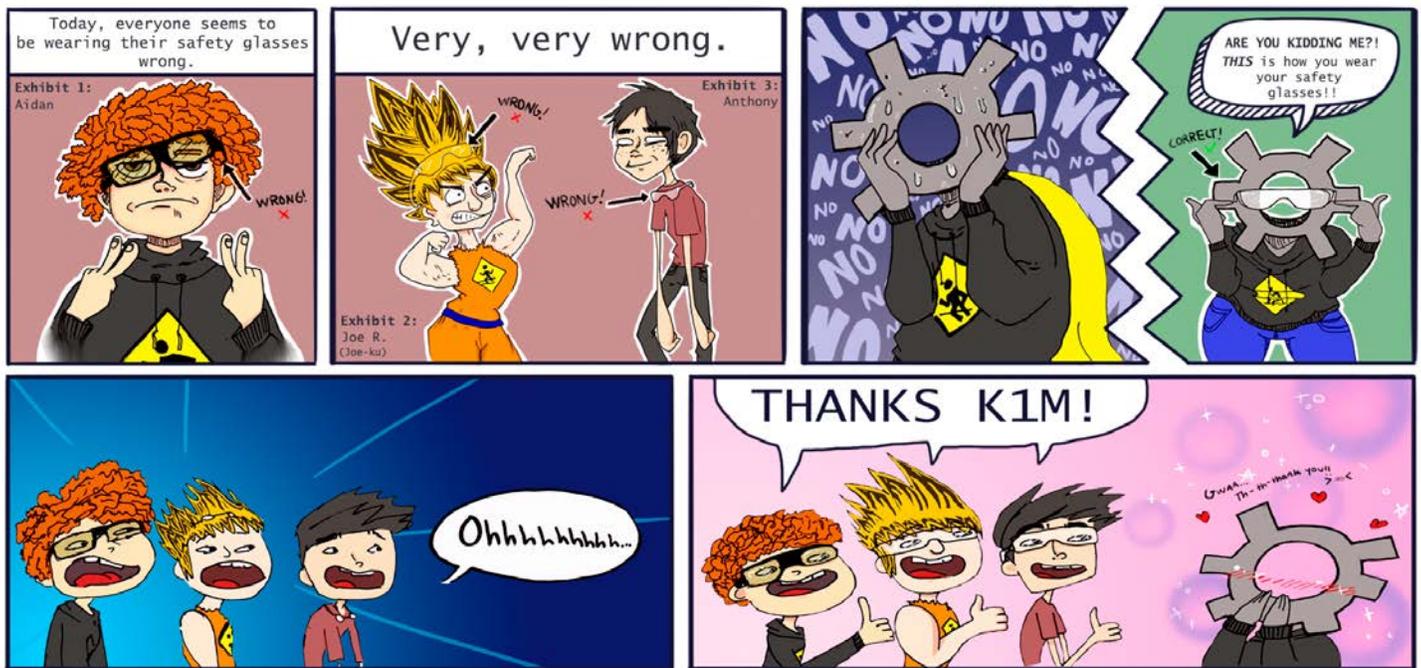
I want to go become an engineer and attend Kettering University. I hope my work with FIRST will help me achieve those goals.

interviewed by Grace Cupolo

# SAFETY COMIC: TEACHING THE FUNDAMENTALS OF A SAFE SHOP ENVIRONMENT THROUGH ART

Working together with Sasfety Captain Kim McBryan, Abby Ferry and Grace Cupolo have produced a series of safety-themed comics featuring our teams new hero. The safety mogul, K1M is on a crusade to make our team a safer place to work. These comics will also be published on our social media sites so as to maximize the benefit.

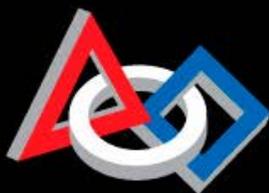
Comic by Abby Ferry. Written by K1M McBryan



## MEET THE GEARHEAD: EGAN KLINE

*Anna Karcher*

Egan is in his freshmen year and has an interest in learning how to use designer programs and how to build a robot. He has enjoyed the time he has spent in the club and has found the people in it to be cool. Of the many prospects for the future, he hopes to able to help the team have a successful year and learn more in design.



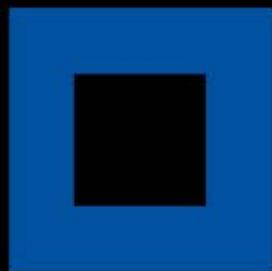
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**FESTO**

