

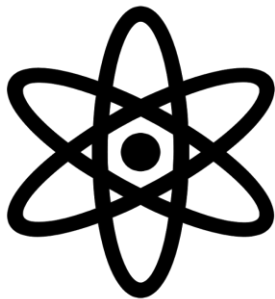
AdamBots Safety Guide

Team 245

Welcome to the AdamBots 2015 Safety Guide. Safety is just as important as any other aspect of robotics. Being a member of the AdamBots means putting forth proper safety precautions while having fun at the same time is an integral part of the AdamBots mission. Religiously following FRC safety rules and guidelines leads to a strong foundation in leadership and safe practices.

The AdamBots have instituted safety as a top priority by using safety checklists, injury logs, and practicing safe procedures. These practices lead to a safe work environment and organization throughout the workplace. A safe workplace is a productive workplace.

The AdamBots remind all FRC teams to be safe while working. Spreading safety reminders and making sure all teams embody the safety guidelines of FRC is an important part of AdamBots outreach.



ADAMBOTS

Team 245

Quick Safety Tips

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- ✿ Always use the proper safety equipment
- ✿ Cover your electronics when drilling
- ✿ Obtain all the MSDS
- ✿ Know where the nearest fire extinguisher and first aid station are
- ✿ Tie back long hair
- ✿ Avoid loose clothing
- ✿ Always use a step-stool, not a crate
- ✿ Keep your pit area clean
- ✿ Remember that hot metal looks the same as cold metal; take appropriate precautions
- ✿ Use the correct tool for the job. Screwdrivers are not chisels or hammers!
- ✿ Cover all sharp edges of tools in storage
- ✿ File down all sharp edges on the robot
- ✿ Turn off the robot when working on the robot
- ✿ Unplug the battery for extra protection
- ✿ Release all air pressure in pneumatic systems when possible
- ✿ Charge batteries in an area where air can circulate
- ✿ Use the safety plugs provided by FIRST when batteries are not in use
- ✿ Create a system for lifting your robot that ensures that everyone is ready

Handling the Batteries

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- ✿ Caution is needed when working with robot batteries
- ✿ Polarity should never cross to avoid damage. The polarity of the charger and the batteries should always match
- ✿ With batteries there is always a possibility of it: causing shock, becoming hot and starting fires, rupturing (releasing battery acid), and shorting out
- ✿ Safety glasses should be worn when working with batteries
- ✿ If there is a battery spill notify someone and take necessary action

Lifting and Handling

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- ✿ All lifters must be wearing PPE
- ✿ Robot should be powered off and everyone who is not lifting should clear the area
- ✿ Make sure the area is clear and all lifters should know the path of lifting
- ✿ There should be at least two people and at most four
- ✿ Lifters need to grasp at the same level and lift with the legs
- ✿ Make sure the cart is stable
- ✿ Reminder: Climbing over the railing is prohibited
- ✿ Use the gate opening when entering/exiting the playing field

General Safety

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- ✿ Common Sense
- ✿ Know basic safety procedures
- ✿ Act safely and maturely at all times
- ✿ Follow safe work practices
- ✿ Walk in a controlled fashion
- ✿ Wear non-shaded safety glasses
- ✿ Wear shoes that completely cover the entire foot
- ✿ Wear gloves and hearing protection if necessary
- ✿ Display Gracious Professionalism at all times
- ✿ Assist other teams

Competition/Pit Safety

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- ✿ Use the buddy system
- ✿ Demonstrate safe behaviors in the heat of competition
- ✿ The robot must be properly secured to work underneath it
- ✿ Keep aisle clear for pedestrians and robot transit
- ✿ Respectfully notify others while carrying a robot
- ✿ Maintain a clean, neat, and orderly Pit Station
- ✿ Keep aisles clean for easy travel

✿ Limit access to pit area to avoid dangerous overcrowding

✿ Nothing can be taller than 10ft. off the ground

Child Safety

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✿ Children under 12 years of age must be supervised by an adult 18 years or older at all times

✿ Strollers are prohibited in the pit stations

Shop/Workspace Safety

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✿ Safety glasses are a must

✿ No loose/baggy clothing

✿ No long sleeves

✿ No open toed shoes

✿ No ties or dangly jewelry

✿ No sweatshirt strings hanging out

✿ No cell phones/ mp3 players

✿ No rough-housing in the work area

✿ All long hair must be pulled back and should not be hanging down



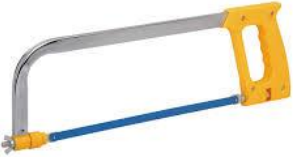



Outreach

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- ✿ The Crop Walk- hunger walk to support Rochester Neighborhood House
- ✿ Halloween Hoot- help clean up after the event
- ✿ Ducky Race- raise money for Make a Wish Foundation
- ✿ Relay for Life- top team donation
- ✿ Girl Scout Clinic- promote STEM education at Oakland University
- ✿ Jr FLL- Musson (2), McGregor (2), Hugger (2)
- ✿ FLL- Long Meadow
- ✿ FTC- Van Housen 5381, Hart
- ✿ FRC- CyberCats 5436, Team LamBot 3478, Blue Ignition 3526, Village Bulldogs 3096

Tool Manual Overview

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Tool	How to Use	Tool	How to Use
 <p>Drill Press</p>	<ol style="list-style-type: none"> 1. Secure the drill bit tightly in the chuck by using the key, make sure the bit is properly inserted. Make sure your piece of material is properly secured. 2. Turn the Drill Press on and slowly bring the drill bit into the material. 	 <p>Hand Drill</p>	<ol style="list-style-type: none"> 1. Secure the drill bit tightly in the chuck, make sure the bit is properly inserted. Make sure your piece of material is properly secured. 2. Turn the Hand Drill on and slowly lead the drill bit into the material
 <p>HackSaw</p>	<ol style="list-style-type: none"> 1. Make sure your piece of material is properly secured in a vise or with clamps. 2. Securely hold the hacksaw and guide it through the material with long strokes to cut the material. 	 <p>BandSaw</p>	<ol style="list-style-type: none"> 1. Make sure any guides you are using on the bandsaw are properly secured. 2. Turn the BandSaw on and guide the material through the blade slowly. Be careful not to bend the blade.
 <p>Mill</p>	<ol style="list-style-type: none"> 1. Make sure the material is properly secured in the vice. Make sure the desired milling bit is properly secured in the chuck. 2. Turn the Mill on and guide the bit through the material. Use oil if necessary when milling. 	 <p>Lathe</p>	<ol style="list-style-type: none"> 1. Make sure the material is properly secured in the lathe chuck. 2. Turn the Lathe on and adjust the speed. Carefully guide the lathe tools along the material, removing a little bit of material at a time.

 <p style="text-align: center;">File</p>	<ol style="list-style-type: none"> 1. Make sure the material is properly secured in a vice or with clamps. 2. Securely hold the File and guide it along the material with long strokes to remove rough edges on your piece of material. 	 <p style="text-align: center;">Belt Sander</p>	<ol style="list-style-type: none"> 1. Turn the Belt Sander on, slowly move the piece of material along the belt to remove material. Be careful not to have your fingers touch the belt while sanding.
 <p style="text-align: center;">Jig Saw</p>	<ol style="list-style-type: none"> 1. Make sure your material is properly secured in a vice or with clamps. 2. Turn the Jig Saw on and guide it through the material carefully, making sure the blade is not twisting or bending. 	 <p style="text-align: center;">Center Punch</p>	<ol style="list-style-type: none"> 1. Make sure your material is properly marked with the location to be center punched. Line the center punch on the mark. 2. Press down on the center punch until it "pops". Repeat if necessary
 <p style="text-align: center;">Wire Cutters</p>	<ol style="list-style-type: none"> 1. Hold the wire cutters in your hands. 2. Squeeze the wire cutters to cut the wires or other material. 	 <p style="text-align: center;">Pliers</p>	<ol style="list-style-type: none"> 1. Put the material in the opening on the pliers to properly grasp the material. Use the pliers to bend the material or hold the material.
 <p style="text-align: center;">Tin Snips</p>	<ol style="list-style-type: none"> 1. Hold the tin snips in your hands. 2. Squeeze the tin snips to cut the material with the cutting blades. 	 <p style="text-align: center;">Chisel</p>	<ol style="list-style-type: none"> 1. Make sure your material is properly secured in a vice or with clamps. 2. Hold the chisel to the material at a proper angle and hit the end of the chisel with a hammer to gouge the material to the desired shape.

Tools and Safety Workshop

Name	9/24	10/1	10/8	10/15	Passed Exam
Sam Berklich					
Tony Montagna					
Jacob Lydick					
Anthony Borraccio					
Arman Zaden					
Kamden Little					
Alexander Phalen					
Julie Ye					
David Ingermann					
Michaela Fung					
Trinity Fung					
Jonathan Li					
Benjamin Person					
Prateek Pinchi					
Kapil Bansal					
Nitesh Mohan					
Andrew Picklo					

9/24 - safety presentation, bolts, tool list, screws
 10/1 - power tools, basic robotic workshop information
 10/8 - safety quiz, drill press, vices, bandsaw
 10/15 - review of past workshops/ robots

Safety Quiz

Answer the following questions true or false:

- 1.) _____ You don't need to wear safety glasses in the backroom
- 2.) _____ You can directly work on the robot while it's running (no testing)
- 3.) _____ Closed toe shoes are a must
- 4.) _____ You can wear your hair down
- 5.) _____ It's okay if you're the only one working in the backroom (no mentor around)
- 6.) _____ It's okay to use a tool if you aren't sure how it works
- 7.) _____ You should make sure that you have no strands (sweatshirt) dangling from your body upon entering the build room
- 8.) _____ Sleeves should be pulled up
- 9.) _____ You don't need safety glasses in the pit
- 10.) _____ If the robot's not on you don't need safety glasses around it
- 11.) _____ If someone shouts, "ALL CLEAR" you should back away from the robot
- 12.) _____ No roughhousing in the workroom
- 13.) _____ The workroom is only in the build room
- 14.) _____ Shinning the Milwaukee light in someone's eye is okay
- 15.) _____ If you see someone unconscious on the floor, you should walk away

EXTRA CREDIT:

- 1.) Who is the lead building mentor? (FULL NAME)

- 2.) Who are the founders of the Brown Clan? (There's two)

- 3.) Who is your safety captain?

- 4.) What's the name of the game this year?