



# TOOL SAFETY PRESENTATION

STAY SAFE OR EXTERMINATE



HCRHS FIRST ROBOTICS TEAM 3637

# GENERAL RULES

- Make sure a mentor is helping you
- Make sure safety guards are in place
- Keep long hair tied back
- Roll up long sleeves
- Take off dangling jewelry
- Wear PPE
- Inspect materials for warps and defects
- Make sure area is clear and safe
- Clean up work space when you are done



# HAND TOOL SAFETY

Use the right tool for the right job

Don't use a wrench when you mean to use a hammer, don't use a screwdriver as a chisel

Cut away from your body when using cutting tools (i.e. X-acto knives)

Don't use...

Broken or damaged tools

Dull cutting tools

Impact tools and chisels with mushroomed heads

Tools with splintered or cracked wood handles

Tools with loose handles

Portable power tools such as drills with damaged cords

Do not hold material in hand when using tools

Never toss or throw tools

Carry so point of tool is facing ground and your arm is at your side



# BAND SAW



- Keep fingers at least 3 inches away from blade
- Check blade tension and tracking before turning on the machine
- Keep a balanced stance
- The teeth of the blade should point down towards the table of the machine
- Never start the machine with the material touching the blade
- If blade breaks during operation immediately stop the saw, leave the stock where it is, unplug the saw and report the incident to the teacher.
- The upper safety guard should be  $\frac{1}{4}$ " above the material.
- Cut lumber and aluminum here

# DRILL PRESS

Do not wear gloves while using

Make sure belt guard is in place

Always clamp materials to the table

Tighten chuck key and then remove the key before using

Make sure drill bit is secure in the chuck and in good condition

The harder the material used, the slower the speed of the drill  
(More Torque)

Make sure drill bit is proper size for the hole you want to drill

When finished turn off the power and then remove the drill bit

You can press wood, metal, pipe, plastic, basically anything if  
you clamp it down.



# CHOP SAW

- Keep fingers clear of the path of the blade
- Regularly check and tighten the blade, inform someone if you think something is wrong
  - Check to see if the blade/teeth are dull, chipped, cracked, or rusted
- Clamp all material down
- After completing a cut, release the trigger switch and let the blade come to a complete stop, then raise the blade from the workpiece.
- This is the loudest machine in the shop. Wear earplugs or earmuffs to keep your ears protected unless you want tinnitus or hearing damage.



# BENCH GRINDER

Stand to one side when starting the machine

Only grind materials on the face of the wheel, not the side

Make sure the wheels are not too small or cracked, notify a mentor or Mr. M immediately if so.

Spark shields and tool rests should be adjusted to  $\frac{1}{8}$ " from the wheels

Small pieces of materials should be held in place by Vice Grips

Be careful, the wheels generate a lot of heat sometimes you will need to douse part in water after grinding

Before leaving the machine, make sure the wheels have come to a complete stop

Only grind steel

