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# Power Tool Safety

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# Power Tool Safety Terms

- Guard – A protective device that forms a barrier between the hazardous part of a tool and the operator
- Fence – a device used to guide material while cutting
- RPM (revolutions per minute) – How fast a motor is able to spin something
- Double Insulated – a form of electrical protection designed to protect the operator from electrical shock.
- Chip Shield – a form of guard that keeps wood shavings, metal chips and sawdust away from the operator
- Kickback – when the piece of material gets caught on the tool and flings back towards the operator
- Clamp – a device that helps prevent kickback and holds the piece of material in place

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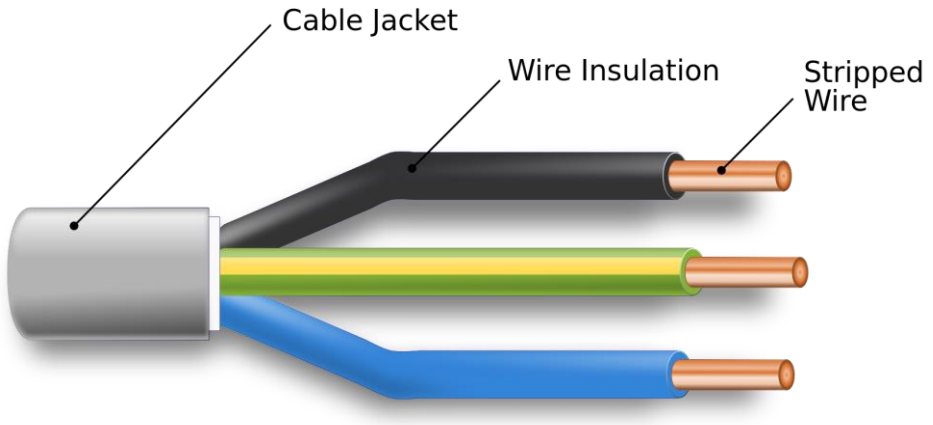
# Power Tool Wiring Basics

- Power tool cabling should have a jacket that surrounds wire insulation on individual wires
- None of these layers should be damaged prior to use



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# Electrical Tape is NOT an OSHA approved method for repairing damaged cabling (for extensive damage)

If your cord has anything but superficial damage to the jacket then electrical tape is NOT an approved method of repair

You must take the tool out of service and repair it properly when this happens

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# Generic Power Tool Safety Rules

- Always read, understand and follow the instruction manual for the equipment you are using
  - Understanding the instructions is the first step to understanding what can hurt you

- Always wear your PPE (safety glasses, face shield, dust mask etc.)
  - Wearing your PPE keeps you safe from flying debris

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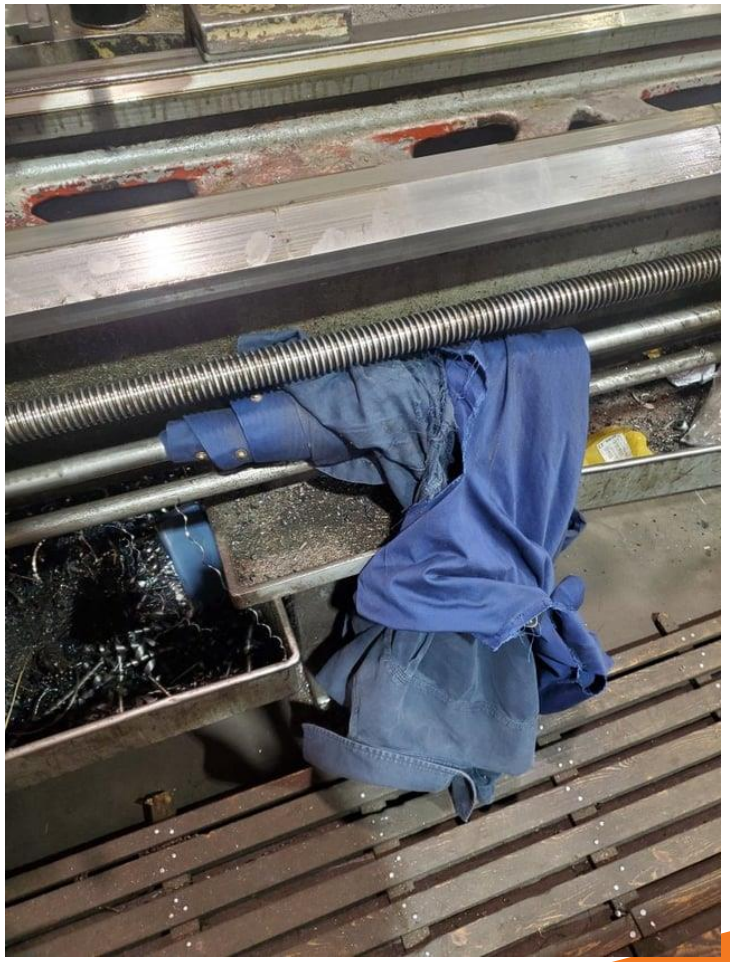
# Generic Power Tool Safety Rules

- Always remove loose fitting clothing and jewelry as they can become snagged in rotating machinery
  - Tie back any loose clothing. Be sure to wear neck wear and lanyards that has a quick-release clasp
  - Be sure that your gloves fit you properly to avoid snagging into machinery
  - Failure to do this can result in the worker getting pulled into the hazard zone



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# Generic Power Tool Safety Rules

- Always tie back long hair (this includes beards) so it doesn't get caught in rotating machinery

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# Generic Power Tool Safety Rules

- Do not operate the machinery while intoxicated, sick, sleepy or distracted

- Clean your work area before hand so that surrounding material does not pose a hazard

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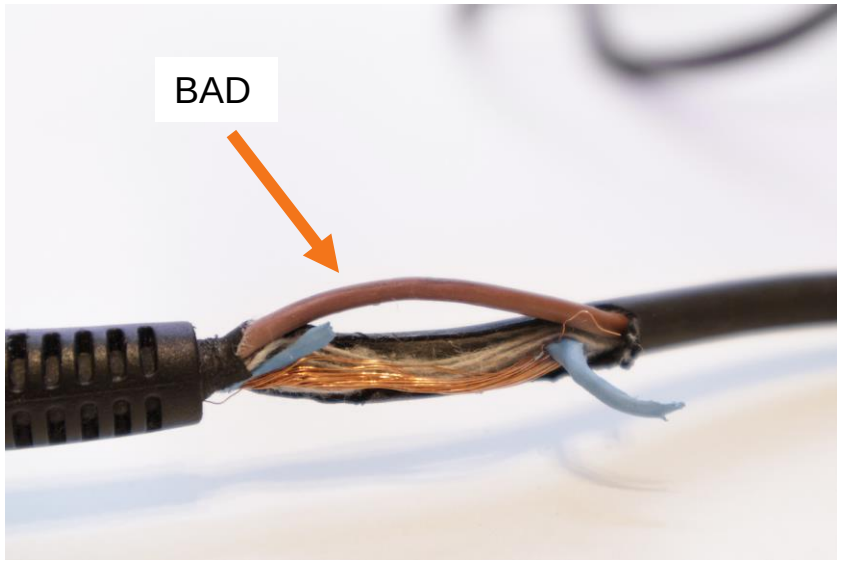
# Generic Power Tool Safety Rules

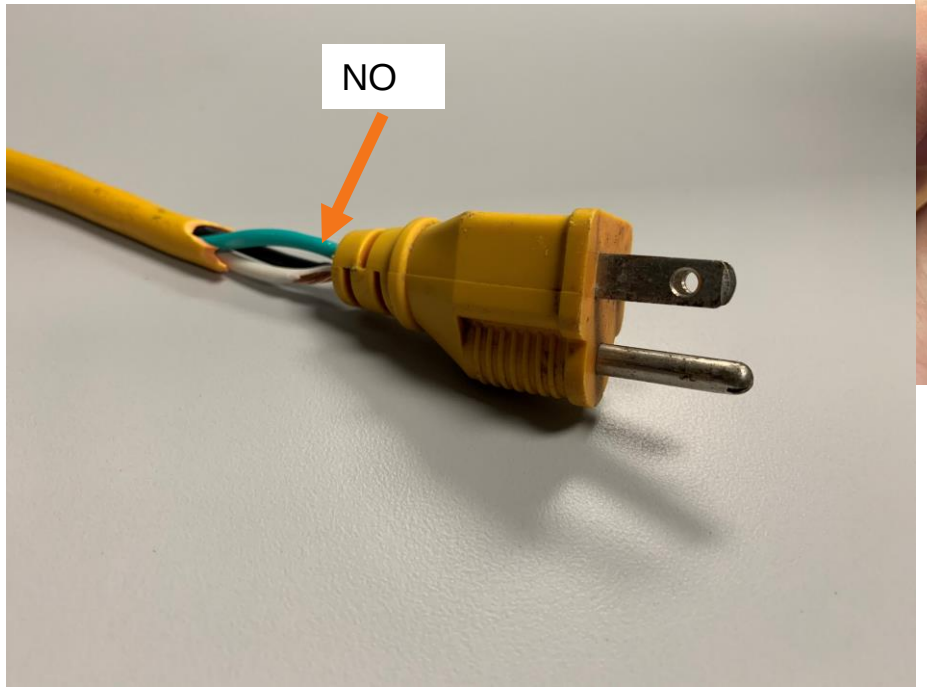
- Make sure your area is well lit

- Only use the tool if it is in good condition (has the ground plug, no frayed cabling and all appropriate guards)


BAD


ALSO
BAD


NOPE


NO

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# Generic Power Tool Safety Rules

- Never use power tools in wet or damp conditions

- Make sure that any extension cords you use are rated for the correct amperage for the tool you are using

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# Generic Power Tool Safety Rules

- Make sure that the blades, cutters, bits or grinding plates are not warped or damaged in any way. Confirm the rotating parts are firmly secured in the holder

- Always use the correct tool for the job

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# Generic Power Tool Safety Rules

- Make sure that you are using a stable, level surface when using a tool
- Cut away from your body (or your friends)
- Clamp down any part that could potentially kickback

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# Most important of all…

- Work with a buddy
  - On the off chance something happens, its better to have an immediate response (shutting off equipment, providing first aid)
- Be situation aware
  - Make sure that you are aware of the risks that using the tool holds and be aware of people in your area that might not know

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# Using Specific Power Tools

Different tools have different safety considerations

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# Power Saws

Table saws, circular saws, jig saws

- Easily removes fingers or limbs
- To be safe:
  - Wear your eye, face and hearing protection
  - Never remove factory guards
  - Clamp the material (do not try to hold)
  - Set the depth of the saw blade so it is only a little past the material
  - Cut away from yourself
  - Use a “pusher” when using a table saw to prevent fingers from getting near the blade

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# Nail Guns

- Responsible for 40,000 ER visits annually
- Ricochet and misfires are common injuries to hands and feet
- To be safe:
  - Wear your PPE
  - Do not disable the safety features
  - Make sure that the one you're using has a sequential mode (trigger and depression)
  - Consider the material that is being worked with (harder material causes ricochet)
  - Disconnect the air supply when not in use

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# Power Drills

- Most injuries caused by electrocution (by drilling into live wiring) or loose clothing getting caught
- Can also cause kickback when the bit snags on the material or slip when drilling smooth material
- To be safe:
  - Wear your PPE
  - Keep your drill bits sharp
  - Do not use in wet locations
  - Disconnect the power before changing a bit
  - Secure the workpiece using clamps or another method
  - Drill a small pilot hole before drilling larger holes

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# Grinders

- Grinder injuries most commonly occur to hands and face
- To be safe:
  - Wear your PPE (seriously, this is really important)
  - Recommended to wear safety glasses and face shield
  - Never remove the guards
  - Don’t use damaged wheels
  - Use both hands

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# UL Listed

- UL or Underwriter Labs is a certification that shows that the tool has been manufactured and tested under rigorous standards
- Safety organization that confirms that the product can safely do what it was built for

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# End of Show

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