



Tool Safety Basic

This course is designed to acquaint you with some of the requirements and important safety practices when using hand and power tools in the workplace. Special attention is given to choosing tools properly to prevent ergonomic injuries, and electrical safety guidelines necessary in order to reduce or eliminate shock hazards.

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OSHAcademy Course 160 Study Guide

Tool Safety: Basic

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Contact OSHAcademy to arrange for use as a training document.

This study guide is designed to be reviewed off-line as a tool for preparation to successfully complete OSHAcademy Course 160.

Read each module, answer the quiz questions, and submit the quiz questions online through the course webpage. You can print the post-quiz response screen which will contain the correct answers to the questions.

The final exam will consist of questions developed from the course content and module quizzes.

We hope you enjoy the course and if you have any questions, feel free to email or call:

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Modules and Learning Objectives

Module 1 – Hand and Tool Safety

Learning objectives in this module include:

- Describe the five basic safety rules for hand and power tools.
- Describe the ergonomic issues inherent with working with the wrong hand tools.
- Discuss the importance of selecting the right tools for the job.
- Discuss design factors to consider when choosing single- and double-handle hand tools.
- List at least five best practices for proper hand tool use.
- Describe best practices for replacing and storing hand tools.

Module 2 – Power Tool Safety

Learning objectives in this module include:

- Identify some of the more dangerous hand tools commonly used in the workplace.
- Describe the common moving parts that must be guarded on power tools.
- Describe the various types of control switches on power tools.
- Describe the safe work practices when using extension cords.
- Define "grounding" and describe difference between 2-wire and 3-wire circuits.
- Discuss the purpose for and importance of using ground fault circuit interrupters (GFCIs).
- Describe how double-insulated tools help protect against shock in wet environments.
- Describe the use of personal protective equipment (PPE) when working with power tools.

Course Introduction

In 2017, there were 991 reported fatalities in the workplace. Not all of these were due to hand and power tools, yet it's important to understand that using defective tools, or not using tools correctly do cause fatalities as well as serious injuries. Hand and power tools are a common part of our everyday lives and are present in nearly every industry. These tools help us easily perform tasks that otherwise would be difficult or impossible.

Hand and power tool hazards are addressed in specific standards for the general industry, shipyard employment, marine terminals, longshoring, and the construction industry.

This course is designed to present to employees and employers a summary of some of the more important safe work practices when working with hand and portable power tools.

The material in this course is based on the standards of the Occupational Safety and Health Administration. However, this course should not be considered as a substitute for the full safety and health standards for the general industry [1910, Subpart P](#), or for the construction industry, [1926, Subpart I](#).

Employers and employees in the 26 states and territories with OSHA-approved state safety and health plans should check with their state agency. Their state may be enforcing standards and other procedures that, while "at least as effective as" federal standards, are not always identical to the federal requirements.

Module 1: Hand Tool Safety

Introduction

This first module takes a look at the various hazards associated with working with tools and identifies ways to prevent worker injury through proper use of tools and personal protective equipment.

The employer is ultimately responsible for the safe condition of tools and equipment used by employees. Employers should never issue or permit the use of unsafe hand and power tools.

Employees should be trained in the proper use and handling of tools and equipment.

Workers should also be able to recognize the hazards associated with the different types of tools and the safety precautions necessary.

Five basic safety rules can help prevent hazards associated with the use of hand and power tools:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use and do not use damaged tools.
- Operate tools according to the manufacturer's instructions.
- Provide and properly use the right personal protective equipment.

Employees and employers should work together to establish safe working procedures. If an employee encounters a hazardous situation, it should be brought immediately to the attention of the supervisor or other responsible person for hazard abatement.

Quiz Instructions

After each section, there is a quiz question. Make sure to read the material in each section to discover the correct answer to these questions. Circle the correct answer. When you are finished go online to take the final exam. This exam is open book, so you can use this study guide.

1. Who is ultimately responsible for the safe condition of tools and equipment?

- a. The employee
- b. The supervisor
- c. The safety manager
- d. The employer

Ergonomics

Some tools are advertised as “ergonomic” or designed with ergonomic features. A tool becomes “ergonomic” only when it fits the task you are performing, and it fits your hand without causing awkward postures, harmful contact pressures, or other safety and health risks.

If you use a tool that does not fit your hand—or use the tool in a way it was not intended—you might develop an injury, such as carpal tunnel syndrome, tendinitis, or muscle strain.

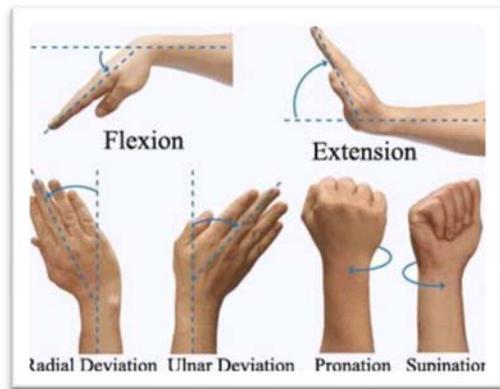
These injuries do not happen because of a single event, such as a fall. Instead, they result from repetitive movements that are performed over time or for a long period.

Unsafe practices may result in damage to muscles, tendons, nerves, ligaments, joints, cartilage, spinal discs, or blood vessels. Below are some ergonomic issues to consider when using hand and power tools.

Neutral Position: When working with hand tools, it is good practice to maintain a neutral (handshake) wrist position. Remember, bend the tool, not the wrist.



Flexion and Extension: Design tasks and select tools to reduce extreme flexion or deviation of the wrist.



Power Grip: The hand grip that provides maximum hand power for high force tasks. All the fingers wrap around the handle.



Contact Pressure: Pressure from a hard surface, point, or edge on any part of the body.



Pinch Grip: The hand grip that provides control for precision and accuracy. The tool is gripped between the thumb and the fingertips.



2. What is a good rule when working with hand tools?

- a. The wrist position should be in flexion or extension
- b. Maintain the wrist in a neutral position
- c. Keep the wrist properly flexed
- d. Make sure the wrist is not extended too far

What is the Best Tool?

The best tool does the following:

- fits the job you are doing
- fits the work space available
- reduces the force you need to apply
- fits your hand
- can be used in a comfortable work position
- does not require you to raise or extend the elbows (heavy tools)

Conditions that Cause Hand and Wrist Disorders

The following are some of the conditions that can cause hand and wrist disorders:

- frequent or repetitive movement of the hand or wrist (usually associated with awkward wrist angles)
- inappropriate tool and equipment design
- vibrating knives and saws
- poor work station design and arrangement
- cold environments

Symptoms of Hand and Wrist Disorders

You may have a problem if you have any of these symptoms:

- tingling
- swelling in the joints
- decreased ability to move
- decreased grip strength
- pain from movement, pressure, or exposure to cold or vibration
- continual muscle fatigue
- sore muscles
- numbness
- change in the skin color of your hands or fingertips

These symptoms may not appear immediately because they develop over weeks, months or years. By then, the damage may be serious. Take action when you notice any discomfort.

(Source: CAL-OSHA)

3. Each of the following is a condition that might result in hand and wrist disorders, EXCEPT

_____.

- a. tasks requiring repetitive motion
- b. vibrating tools
- c. tools requiring a power grip
- d. cold environments

Hand Tool Safety

Tools that are manually powered are called hand tools. Hand tools include anything from axes to wrenches. Common hand tools include: Tin snips, hatchets, screw drivers, hammers, pliers, anvils, wrenches, files, rasps, saws, punches, chisels, planes, hand-held boring tools, and pop rivet guns.

Wrong Tool for the Job

The greatest hazards posed by hand tools result from misuse and improper maintenance.

Some examples include the following:

- If a chisel is used as a screwdriver, the tip of the chisel may break and fly off, hitting the user or other employees.
- If a wooden handle on a tool, such as a hammer or an axe, is loose, splintered, or cracked, the head of the tool may fly off and strike the user or other employees.
- If the jaws of a wrench are sprung, the wrench might slip.
- If impact tools such as chisels, wedges, or drift pins have mushroomed heads, the heads might shatter on impact, sending sharp fragments flying toward the user or other employees.

4. The greatest hazards posed by hand tools result from _____.

- a. misuse and improper maintenance
- b. poor quality and tool defects
- c. the average age of tools
- d. tools break from impact striking workers

Selecting the Right Tool for the Job

Before you select a tool, think about the job you will be doing. Tools are designed for specific purposes.

Using a tool for something other than its intended purpose is most often the cause of both tool damage and personal injury. You can reduce your chances of being injured when you select a tool that fits the job you will be doing. Examples include the following:

- job requiring cutting, pinching and gripping will require hand tools like pliers, snips and cutters
- job requiring you to strike something will require some kind of hammer
- job requiring you to drive or turn something will require screw or nut drivers and wrenches

Tips for Selecting Hand Tools

Over time, exposure to awkward postures or harmful contact pressures can contribute to an injury. You can reduce your risk of injury if you select hand tools that fit your hand and the job you are doing. In the next tab, we'll discuss some tips from the Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (NIOSH).

5. What is often the cause of tool damage and personal injury?

- a. Failing to properly handle tools
- b. Using too much force while using the tool
- c. Using tools for something other than intended purposes
- d. Failing to understand the limitations of tools

Single-Handle Tools

Single-handle tools are tube-like tools measured by handle length and diameter. The diameter is the length of a straight line through the center of the handle.

- For single-handle tools used for precision tasks, select a tool with a handle diameter of 1/4 inch to 1/2 inch.
- For single-handle tools used for power tasks, select a tool that feels comfortable with a handle diameter in the range of 1 1/4 inches to 2 inches. You can increase the diameter by adding a sleeve to the handle.

6. Which of the following would be a suitable diameter for single-handle tools requiring a power grip?

- a. 1 3/4 inches
- b. 1 inch
- c. 1/2 inch
- d. 3/4 inch

Double-Handle Tools

Double-handle tools are measured by handle length and grip span. The grip span is the distance between the thumb and fingers when the tool jaws are open or closed.

- For double-handle tools (plier-like) used for power tasks, select a tool with a grip span that is at least 2 inches when fully closed and no more than 3 1/2 inches when fully open. Consider using a clamp, a grip, or locking pliers when continuous force is required.
- For double-handle tools used for precision tasks, select a tool with a grip span that is no less than 1 inch when fully closed and no more than 3 inches when fully open.
- For double-handled pinching, gripping, or cutting tools, select a tool with handles that are spring-loaded to return the handles to the open position.

Edges and Surfaces

It's important to consider the edges and surfaces of the handles of tools you want to use. Be sure to check the following:

- Select a tool without sharp edges or finger grooves on the handle.
- Select a tool that is coated with soft material.

7. For double-handle tools used for precision tasks, select a tool with a grip span that is _____ when fully closed and _____ when fully open.

- a. no less than 1 inch; no more than 2¾ inches
- b. no less than 1½ inches; no more than 3½ inches
- c. no less than 1 inch; no more than 3 inches
- d. no less than 2¼ inches; no more than 4 inches

Handles

Select a tool with an angle that allows you to work with a straight wrist.

- Tools with bent handles are better than those with straight handles when the force is applied horizontally (in the same direction as your straight forearm and wrist).
- Tools with straight handles are better than those with bent handles when the force is applied vertically.
- For tasks requiring high force, select a tool with a handle length longer than the widest part of your hand—usually 4 inches to 6 inches.
- Prevent contact pressure by making sure the end of the handle does not press on the nerves and blood vessels in the palm of your hand. If the handle is too short, the end will press against the palm of your hand and may cause an injury.
- Select a tool that has a non-slip surface for a better grip. Adding a sleeve to the tool improves the surface texture of the handle. To prevent tool slippage within the sleeve, make sure that the sleeve fits snugly during use. Remember, a sleeve always increases the diameter or the grip span of the handle.

8. When are tools with straight handles better to use than those with bent handles?

- a. When the force is applied vertically
- b. When the force is applied horizontally
- c. When the force is applied tangentially
- d. When the force is applied diagonally

Proper Tool Use

Be sure to follow these general rules when using hand tools:

- Inspect tools before using.
- Avoid using damaged tools.
- Tools that appear to be damaged or have broken handles should be marked unsafe.
- Do not use damaged or defective tools until they have been repaired.

Always use proper-sized tools and equipment for the job. Use each tool only for the job for which it was intended. Forcing a small tool to do the job of a large one may result in injury or tool damage. Follow these guidelines:

- Never use a screw driver to see if electrical circuits are hot.
- Never use a machinist's hammer in place of a carpenter's hammer.
- Do not strike a hardened steel surface, such as an anvil, with a steel hammer because a small piece of steel may break off and injure someone.
- Be sure wrenches fit properly.
- Never use pliers in place of a wrench.
- Never strike wrenches with hammers or use wrenches as hammers.
- Pull on wrenches. Do not push.
- When sawing, secure the material in the saw vise.

- Watch your fingers. Take special care when hammering so that you strike the object, not your fingers.

9. Which of the following is NOT a safe rule when working with tools?

- a. Do not strike a hardened steel surface with a steel hammer
- b. Never use wrenches as hammers
- c. Do not use screw drivers to test electrical circuits
- d. Do not pull on wrenches: push them

Tool Replacement and Storage

To make sure tools remain in good condition, follow these guidelines when replacing and storing tools:

- Carry and store all hand and power tools properly.
- Carry all sharp-edge tools and chisels with the cutting edge down.
- Do not carry sharp tools in a pocket.
- Store all sharp-edge cutting tools with the sharp edges down.
- Grip and hold tools so that they do not slip and hit someone.
- Do not wear gloves if they are bulky and make gripping tools difficult.
- Keep other employees away from the work when using saw blades, knives, or other tools.
- Keep tools away from aisle areas and away from other employees.
- Knives and scissors must be sharp.
- Remove cracked saw blades from service.
- Replace wrenches when jaws are sprung to the point that slippage occurs.

- Replace tools with mushroomed heads, such as impact tools such as drift pins, wedges, and chisels.
- Replace all tools with splintered wooden handles.
- Do not store iron or steel hand tools that may produce sparks around flammable substances.
- Store only spark-resistant tools made of non-ferrous materials where flammable gases, highly volatile liquids, and other explosive substances are stored.

10. Which of the following is a safe practice when using tools?

- a. Tighten wrenches that have loose or sprung jaws that slip
- b. Store sharp-edge tools with the sharp edges down
- c. Tape tool handles that are splintered
- d. Weld cracked saw blades only if cracks are less than 1 inch long

Module 2: Power Tool Safety

Introduction

Because power tools are so common in construction, workers are constantly exposed to a variety of hazards. The very tool that makes their job easy and efficient may one day be the cause of a tragic accident. It is good to be reminded of good-sense safety practices.

Which Power Tools Cause the Most Hand Injuries?

Considering how often they are used at construction sites, powered hand tools cause relatively few hand injuries in the industry. In 2012, hand injury claims amounted to only about 4.5 percent of all injury claims accepted for the industry as a whole.

It should not come as too much of a surprise that saws, drills, and nail guns account for most of the injuries (67 percent). However, let's take a look at the top 10 most dangerous portable power tools:

- saws (except chainsaws)
- drills
- nail guns
- jackhammers
- hand grinders
- chainsaws
- hand tools not otherwise classified
- sprayers-paint
- hammers
- impact wrenches

(Source: OR-OSHA)

1. Which of the following tool categories accounts for most hand injuries?

- a. saws, drills, and nail guns
- b. hammers, hand grinders, and drills
- c. chainsaws, impact wrenches, and nail guns
- d. hand grinders, chainsaws, and hammers

Guards

The exposed moving parts of power tools need to be safe-guarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.

Machine guards, as appropriate, must be provided to protect the operator and others from the following:

- point of operation (cutting, shearing, punching, etc.)
- in-running nip points
- rotating parts
- flying chips and sparks

Safety guards must never be removed or modified when a tool is being used.

Follow these rules when using circular saws:

- Portable circular saws with a blade greater than 2 inches (5.08 centimeters) in diameter must be equipped at all times with guards.
- An upper guard must cover the entire blade of the saw.
- A retractable lower guard must cover the teeth of the saw, except where it makes contact with the work material.
- The lower guard must automatically return to the covering position when the tool is withdrawn from the work material.

Grooming

Protect your hair, scalp, and head. Pull back long hair in a band or a cap to keep it from getting caught in tools or moving parts. Be extremely careful with long hair when using a drill or drill press.

2. Machine guards on power tools help protect the employee from each of the following hazards, EXCEPT _____.

- a. point of operation
- b. transverse motion
- c. rotating parts
- d. in-running nip points

Operating Controls and Switches

Power tools must be fitted with safety switches; they are extremely hazardous when used improperly. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

Constant-Pressure Switches and Controls

The following hand-held power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released:

- drills
- tappers
- fastener drivers
- horizontal, vertical, and angle grinders with wheels more than 2 inches (5.08 centimeters) in diameter
- disc sanders with discs greater than 2 inches (5.08 centimeters)
- belt sanders

- reciprocating saws
- saber saws
- scroll saws, and jigsaws with blade shanks greater than 1/4-inch (0.63 centimeters) wide
- circular saws having a blade diameter greater than 2 inches (5.08 centimeters)
- chain saws
- percussion tools with no means of holding accessories securely
- other similar tools

These tools also may be equipped with a “lock-on” control, if it allows the worker to also shut off the control in a single motion using the same finger or fingers.

3. Drills, belt sanders, and chain saws all have this safety feature in common.

- a. They are all used for the same purpose
- b. They are all percussion type tools
- c. They all use lock-on type switches
- d. They require constant-pressure switches and controls

Positive "On-Off", Constant Pressure, and "Lock-On" Controls

The following hand-held power tools must be equipped with either a positive "on-off" control switch, a constant pressure switch or a "lock-on" control:

- disc sanders with discs 2 inches (5.08 centimeters) or less in diameter
- grinders with wheels 2 inches (5.08 centimeters) or less in diameter
- platen sanders, routers, planers, laminate trimmers, nibblers, shears, and scroll saws
- jigsaws, saber and scroll saws with blade shanks a nominal 1/4-inch (6.35 millimeters) or less in diameter

It is recommended the constant-pressure control switch be regarded as the preferred device.

4. Which of the following is the preferred power tool control device?

- a. The intermittent trigger control switch
- b. The positive on-off control switch
- c. The constant-pressure control switch
- d. The lock-on control switch

Portable Tool Use with Extension Cords

In construction, extension cords suffer a lot of wear and tear. Most often, the damage is only to the insulation, exposing energized conductors. When a person handling the damaged cord contacts the exposed wires while holding a metal tool case or contacting a conductive surface, serious electrical shock can result, causing a fall, physical injury, or death.

Repairing Extension Cords

When a worker at a construction site inspects an extension cord and determines that it needs to be repaired, who can repair it?

Anyone who is qualified can do the repair. The worker does not have to be a licensed electrician to repair a typical extension cord. However, he or she must have the knowledge and skills to repair the cord correctly, understand the hazards involved in making the repair, and be able to describe what could happen if the repair is done wrong. The employer is responsible for determining if the person is qualified. The basis for the determination is normally from the electrical industry perspective. (Source: OR-OSHA)

5. Most often, the damage to power extension cords is only to the ____.

- a. insulation
- b. ground wires
- c. hot side of the circuit
- d. plugs

Grounding

The term "ground" refers to a conductive body, usually the earth. "Grounding" a tool or electrical system means intentionally creating a low-resistance path to the earth. When properly done, current from a short or from lightning follows this path, thus preventing the buildup of voltages that would otherwise result in electrical shock, injury and even death. View this [animation](#) to see what happens when grounding is improper.

Under certain conditions, even a small amount of electric current can result in fibrillation of the heart and death. An electric shock also can cause the user to fall off a ladder or other elevated work surface and be injured due to the fall.

To protect the worker from shock and burns at work, make sure electrical powered tools have a three-wire cord with a ground. They must also be:

- plugged into a grounded receptacle
- double insulated
- powered by a low-voltage isolation transformer

Three-wire cords contain two current-carrying conductors and a grounding conductor. Any time an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong must never be removed from the plug. OSHA cites this violation often because they see it often.

6. A common violation OSHA compliance officers cite on construction worksites is _____.

- a. extension cords are not of the correct color
- b. more than two extension cords are connected in series
- c. extension cords are insufficient in length
- d. missing ground prongs from plugs

Ground-Fault Circuit Interrupters (GFCI)

Since neither insulation nor grounding protects you from the conditions discussed in the previous section, we must use other protective measures. One commonly required acceptable protective method is a ground-fault circuit interrupter (GFCI).

A ground-fault circuit interrupter (GFCI), is a fast-acting circuit breaker designed to shut off electric power in the event of a ground-fault within as little as 1/40 of a second.

It works by comparing the amount of current going to and returning from the equipment along the circuit conductors. When the amount going differs from the amount returning by approximately 5 milliamperes, the GFCI interrupts the current.

Receptacle Type

The Receptacle Type incorporates a GFCI device within one or more receptacle outlets. Such devices are becoming popular because of their low cost.

Portable Type

Portable Type GFCIs come in several styles, all designed for easy transport. Some are designed to plug into existing non-GFCI outlets, or connect with a cord and plug arrangement. The portable type also incorporates a no-voltage release device that will disconnect power to the outlets if any supply conductor is open. Units approved for outdoor use will be in enclosures suitable for the environment. If exposed to rain, they must be listed as waterproof.

Cord-Connected Type

The Cord-Connected Type of GFCI is an attachment plug incorporating the GFCI module. It protects the cord and any equipment attached to the cord. The attachment plug has a non-standard appearance with test and reset buttons. Like the portable type, it incorporates a no-voltage release device that will disconnect power to the load if any supply conductor is open. Because GFCIs are so complex, they require testing on a regular basis. Test permanently wired devices monthly, and portable-type GFCIs before each use. All GFCIs have a built-in test circuit, with test and reset buttons, which triggers an artificial ground-fault to verify protection. Ground-fault protection, such as GFCIs provide, is required by OSHA in addition to (not as a substitute for) general grounding requirements.

For more information on power tool operation see the [Professional Power Tool Guide](#) website.

7. Permanent Ground Fault Circuit Interrupters (GFCIs) should be tested ____ and portable GFCIs tested _____.

- a. monthly, daily
- b. quarterly, after each use
- c. monthly, before each use
- d. quarterly, before each workshift

Double-Insulated Tools

Hand-held tools manufactured with non-metallic cases are called double-insulated. If approved, they do not require grounding under the National Electrical Code. Although this design method reduces the risk of grounding deficiencies, a shock hazard can still exist.

Double-insulated tools are often used in areas where there is considerable moisture or wetness. Although the user is insulated from the electrical wiring components, water can still enter the tool's housing. Ordinary water is a conductor of electricity. If water contacts the energized parts inside the housing, it provides a path to the outside, bypassing the double insulation. When a person holding a hand tool under these conditions contacts another conductive surface, an electric shock occurs.

If a power tool, even when double-insulated, is dropped into water, the employee should resist the initial human response to grab for the equipment without first disconnecting the power source.

8. Which of the following statements is TRUE regarding double-insulated tools?

- a. Double-insulated tools reduce the chance of getting shocked by 100%
- b. All double-insulated tools will prevent shock even if submerged
- c. You can still get shocked from a double-insulated tool
- d. Removing the third ground prong makes a tool double-insulated

Personal Protective Equipment (PPE) and Clothing

- Wear PPE that is proper for the type of work being done.
- Do not wear gloves when operating a grinder.
- Do not wear loose-fitting clothes or jewelry that can get caught in moving parts.
- Do not roll up long sleeves. If you wear long sleeves, be sure they are properly buttoned.
- Do not wear flammable clothes.
- Wear safety-toed shoes to protect your feet and toes.

- Protect your eyes, face, head, and scalp. Only wear ANSI-approved industrial-quality safety glasses or safety shields.
- Pull back long hair in a band or a cap to keep it from getting caught in moving parts.
- If necessary, use a proper dust, half-face or full-face respirator.

9. Which of the following is an unsafe practice when working with power tools?

- a. Pulling back long hair when working around moving parts
- b. Wearing gloves while operating a grinder
- c. Making sure long-sleeved shirts are always buttoned
- d. Use only ANSI-approved safety glasses and shields

Operation

- Avoid distractions. Keep your mind on your work. Talking, running, pushing, and scuffling can lead to accidents.
- Work only at operating speed. Do not use a power tool before it has reached operating speed or while it is coming to a stop.
- Do not force a tool by applying too much pressure.
- Use both hands. Use both hands to hold and guide material being sawed.
- Stand in a safe location. Position yourself to avoid being hit if the tool kicks back.
- Do not allow wires, cords, or other objects that could get caught in equipment.
- Do not stand directly behind the equipment.
- Keep safety guards in place and proper working order.
- Do not use blades that are cracked or kinked.
- Keep saw blades sharp and set properly.
- Know the switch location so you can turn off the tool quickly.

10. Each of the following is a safe practice when operating power tools, EXCEPT _____.

- a. keeping safety guards in place and working properly
- b. using both hands to hold and guide material being sawed
- c. always standing directly behind the equipment
- d. not allowing wires or chords that could get caught in equipment

Additional Resources

- [Hand and Power Tools](#), OSHA
- [Hand and Power Tool Safety](#), Grainger
- [Construction eTool](#), OSHA
- [Sample Power Tool Training Program](#), BNL
- [Small Business Handbook](#), OSHA
- [Nail Gun Safety - A Guide for Contractors](#), OSHA