

# RGCCISD

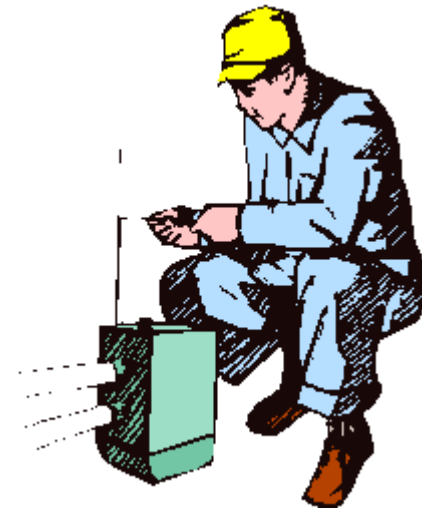
Rio Grande City Consolidated  
Independent School District

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PSRMC

## SAFETY GUIDELINES FOR MAINTENANCE EMPLOYEES



"The illustrations, instructions and principles outlined in this material are general in scope and, to the best of our knowledge, current at the time of publication. No attempt has been made to interpret any referenced codes, standards or regulatory requirements. Please refer to the appropriate code, standard, or regulatory authority for interpretation or clarification."



# Warehouse/Storage Area Safety

## Hand Trucks

1. Tip the load slightly forward so that the tongue of the hand truck goes under the load.
2. Push the tongue of the hand truck all the way under the load to be moved.
3. Keep the center of gravity of the load as low as possible by placing heavier objects below the lighter objects.
4. When loading hand trucks, keep your feet clear of the wheels.
5. Push the load so that the weight will be carried by the axle and not the handles. The operator should only balance and push.
6. If your view is obstructed, use a spotter to assist in guiding the load.
7. Do not walk backward with the hand truck, unless going up stairs or ramps.
8. When going down an incline, keep the hand truck in front of you so that it can be controlled at all times.
9. Move hand trucks at a walking pace.
10. Store hand trucks with the tongue under a pallet, shelf, or table. Do not exceed the manufacturer's load rated capacity. Read the capacity plate on the hand truck if you are unsure.

## Pallet Jacks

1. Only pallet jack operators may operate pallet jacks.
2. Do not exceed the manufacturer's load rated capacity. Read the lift capacity plate on the pallet jack if you are unsure.
3. Do not use pallets or skids that are cracked or split or have other visible damage.
4. Do not ride on pallet jacks.
5. Start and stop gradually to prevent the load from slipping.
6. Pull manual pallet jacks; push when going down an incline or passing close to walls or obstacles.
7. If your view is obstructed, use a spotter to assist in guiding the load.
8. Stop the pallet jack if anyone gets in your way.
9. Do not place your feet under the pallet jack when it is moving.
10. Keep your feet and other body parts clear of pallet before releasing the load.

## Acknowledgement:

By my signature below, I acknowledge that I have received a copy of the handbook containing the Rio Grande City Consolidated Independent School District (RGCC ISD) Maintenance Safety Guidelines as part of the department orientation program. I have reviewed the guidelines and have been given an opportunity to ask questions and get answers to my satisfaction.

I understand that while employed by RGCC ISD, I will be expected to abide by all District and Department safety guidelines as they pertain to my job. I have been instructed to contact my supervisor for assistance if I have questions or if I am unsure of how to perform a job task in a safe manner.

I understand that at RGCC ISD, safety is as important as all other duties and I will be evaluated on the safe performance of my job.

NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

# Warehouse/Storage Area Safety

## **Forklift Safety Rules (Cont'd)**

14. Do not drive along the edge of an unguarded elevated surface such as a loading dock or staging platform.
15. Obey all traffic rules and signs.
16. Sound horn when approaching blind corners, doorways or aisles to alert other operators and pedestrians.
17. Do not exceed a safe working speed of five miles per hour; slow down in congested areas.
18. Stay a minimum distance of three truck lengths from other operating mobile equipment.
19. Drive in reverse and use a signal person when your vision is blocked by the load.
20. Look in the direction that you are driving; proceed when you have a clear path.
21. Carry loads low enough to clear ammonia refrigerant lines when driving in the freezers and when loading a refrigerated truck.
22. Do not use bare forks as a man-lift platform.
23. Do not drive the forklift while people are on the attached man-lift platform.
24. Drive loaded forklifts forward up ramps.
25. Raise the forks an additional two inches to avoid hitting or scraping the ramp surface as you approach the ramp.
26. Drive loaded forklifts in reverse when driving down a ramp.
27. Drive unloaded forklifts in reverse when going up a ramp and forward when going down a ramp.
28. Do not attempt to turn around on a ramp.
29. Do not use "Reverse" to brake.
30. Lower the mast completely, turn off the engine and set the parking brake before leaving your forklift.

## **Loading Docks**

1. Keep the forklift clear of the dock edge while vehicles are backing up to the dock.
2. Do not begin loading or unloading until the supply truck has come to a complete stop, the engine has been turned off, the dock lock has been engaged and the wheels have been chocked.
3. Attach the bridge or dock plate before driving the forklift into the truck.
4. Do not drive the forklift into a truck bed that has soft or loose decking or other unstable flooring.
5. Drive straight across the bridge plates when entering or exiting the trailer.
6. Use dock lights or headlights when working in a dark trailer.

# Warehouse/Storage Area Safety

## Forklifts

Pre-Use Inspection - Do not use if any of the following conditions exist:

1. The mast has broken or cracked weld-points.
2. The roller tracks are not greased or the chains are not free to travel.
3. Forks are unequally spaced or cracks exist along the blade or at the heels.
4. Hydraulic fluid levels are low.
5. Hydraulic line and fitting have excessive wear or are crimped.
6. Fluid is leaking from the lift or the tilt cylinders.
7. The hardware on the cylinders is loose.
8. Tires are excessively worn, split or have missing tire material.
9. Air filled tires are not filled to the operating pressure indicated on the tire.
10. Batteries have cracks or holes, uncapped cells, frayed cables, broken cable insulation, loose connections or clogged vent caps.

## Forklift Safety Rules

1. Do not operate a forklift unless you have been trained and/or certified to do so.
2. Do not exceed the lift capacity of the forklift. Read the lift capacity plate on the forklift if you are unsure.
3. Follow the manufacturer's guidelines concerning changes in the lift capacity before adding an attachment to a forklift.
4. Lift the load an inch or two to test for stability: If the rear wheels are not in firm contact with the floor, take a lighter load or use a forklift with a higher lift capacity.
5. Do not raise or lower a load while you are en route. Wait until you are in the loading area and have stopped before raising or lowering the load.
6. After picking up a load, adjust the forks so that the load is tilted slightly backward for added stability.
7. Drive with the load at a ground clearance height of 4-6 inches at the tips and 2 inches at the heels in order to clear most uneven surfaces and debris.
8. Drive at a walking pace and apply brakes slowly to stop when driving on slippery surfaces such as icy or wet floors.
9. Approach railroad tracks at a 45° angle.
10. Do not drive over objects in your pathway.
11. Do not drive into an area with a ceiling height that is lower than the height of the mast or overhead guard.
12. Steer wide when making turns.
13. Do not drive up to anyone standing or working in front of a fixed object such as a wall.

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The topics presented are intended to provide general guidelines only. They should not be considered comprehensive as individual work areas may differ. For further clarification, explanation or discussion about these and other safety guidelines, consult your supervisor.




# Personal Protective Equipment & Availability

Employees performing work where their safety may be impaired by either a physical or health hazards will wear personal protective equipment that is indicated for that environment. Employees will be provided with, and expected to use, the equipment. Training will be periodically provided on proper PPE use and maintenance.

When there is any doubt about the safety or effectiveness of a particular type of PPE, it will not be used until it can be proved that the employees safety will not be compromised.

Further determinations of the necessity of PPE may be periodically performed through methods such as job safety analysis, analysis of employee injuries, and through engineering studies of the work flow and/or processes. District management is responsible for developing the necessary budget for obtaining PPE where required.

**PPE will be used as a secondary protective measure. Hazards should be controlled through engineering methods such as guards if at all possible.**

1. **HEAD** - Hard hats will be provided and used by all employees that are working in areas where a possibility of head injury is apparent. This danger may stem from impact, falling or flying objects, overhead objects at head height, or other physical hazards that may be identified. 
2. **EARS** - Hear conservation devices will be provided and used by employees that are working in areas where exposed to noise levels are above recognized local, state and federal standards. 
3. **EYES/FACE** - PPE used to protect eyes/and or face will be issued to all employees that are working in areas where they may be subject to flying objects, dust, harmful radiation, or other identified physical and health hazards. The PPE may be glasses, goggles, face shields, or a combination therefore. Contacts will not be allowed in identified areas. Safety glasses used around electrical energy will not have metal fences. Prescription glasses will be made of polycarbonate unless there is a substantiated reason for using another material. 

# Warehouse/Storage Area Safety

## General Safety Rules

1. Observe all posted warnings and signs.
2. Follow the instructions on product labels and/or on the corresponding Material Safety Data Sheet (MSDS) for items or stored in the workplace. MSDS and the written Hazard Communication Program are located in the Indoor Air Quality Technician's office of Maintenance facility.
3. Running or horseplay is not permitted.
4. Move slowly when approaching blind corners.
5. No jumping off docks or trailers. Use the stairs or a ramp.
6. Observe posted weight limits in balcony and mezzanine storage areas.
7. Automatic sprinklers should not be obstructed or blocked.

## Housekeeping

1. Clean up spills immediately. Use caution signs or cones to barricade slippery areas.
2. Do not place boxes or empty pallets in walkways and passageways.
3. Do not block or obstruct stairwells, exits or accesses to safety and emergency equipment such as fire extinguishers or fire alarms.
4. Do not try to kick objects out of pathways (push or carry them).
5. Do not let items overhang from shelves into walkways.
6. Place heavier loads on the lower or middle shelves.
7. Place items on shelves so that they lie flat and do not lean against each other.

## Packaging and Crates

1. Remove or bend nails and staples from crates before unpacking.
2. When cutting shrink wrap with a blade, always cut away from you and co-workers.
3. When opening cartons use safety box cutters. Do not cut with the blade extended beyond the guard.

## Handling Loads

Refer to the section on "Lifting and Material Handling."

## Ladders

Refer to the section on "Ladder Safety."

# Machine Shop Safety

- h. Do not reach over the saw to pull stock into place for cutting.
- i. When using the saw be sure to feed against the cutting edge. Never leave the saw hanging at the end of the arm. Push it back against the post ready for the next cut.
- j. Never use the holding head without carefully studying the instructions for the shaper.
- k. If the saw carriage vibrates away from its post, the machine is out of order and should not be operated until the condition is corrected.

## G. SABER SAWS

- a. Do not wear loose clothing.
- b. Select the correct blade for the material and the operation.
- c. Install the blade with the teeth pointing forward and tighten properly.
- d. Work should be held or, preferably, clamped securely.
- e. Hold saw firmly, and do not force the cut.
- f. Guard against cutting the power cord.

## H. DRILL PRESS OPERATIONS

- a. Always wear safety glasses.
- b. Use drills properly sharpened to cut to the right size.
- c. Never attempt to hold the work under the drill by hand; clamp it securely to the work table before starting the machine.
- d. Run the drill only at proper speed; forcing or feeding too fast may result in broken or splintered drills and serious injury.
- e. If the work slips from the clamp, never attempt to stop it with your hands. Stop the machine to make adjustments or repairs.
- f. Do not leave the chuck wrench in the chuck.
- g. Unplug the machine while using a stick or brush to remove chips from the drill. Never use your fingers, cotton waste, or a rag. File or scrape all burrs from the drill hole.
- h. Be careful when reaching around the revolving drill; wear snugly fitting clothing, and keep the sleeves short so they cannot catch in the drill. Cover long hair.
- i. Always stop the drill if you leave the machine.
- j. When through drilling, take the drill out of the chuck and return it to the proper storage.

# Personal Protective Equipment & Availability

4. **RESPIRATORY** - Respiratory equipment will be provided for and used by all employees that are working in areas where hazards exist. This may be due to dust, fumes, vapors, or other intended physical or health hazards. Respiratory devices are the last choice to be used if engineering controls cannot control or remove the hazards. Training will be provided in use and maintenance of all respiratory devices issued. Each employee will be issued their own personal device for which they will be responsible. All cartridges will be checked to ensure the proper cartridge is used for the specific chemical or hazard involved. All respiratory equipment will be cleaned and sanitized after use or monthly.



5. **HAND** - Hand protection will be provided where indicated as determined by job duties. Employees are expected to use proper hand protection in all situations. Training will be provided in use and maintenance. Each employee will be issued their own personal hand protection for which they will be responsible.



6. **FOOT** - Sturdy footwear, maintained in good repair, will be worn by all employees. Footwear requirements will be determined by job duties and anticipated tasks.

7. **HIGH VISIBILITY CLOTHING** - Clothing such as vests may be issued to all employees that may work around high heavy equipment traffic areas or areas where visibility is necessary for the safety of the employee.



8. **FALL PROTECTION** - Employees whose safety may be compromised by a fall will be issued the appropriate fall protection device. The employee will be trained in its use, maintenance and care.



9. **OTHER** - Other PPE designed for a specific job, (i.e., hazardous material cleanup) will be issued or assigned on a as need basis. The employee will be trained in its use, maintenance, and care and will be responsible for the use and replacement of such equipment.

## General Safety Practices

1. Follow lockout/tagout procedures when performing all repairs, preventive maintenance, adjustments, etc. of all machinery and equipment.
2. Report any hazardous conditions to your manager or supervisor immediately.
3. During any maintenance operation, keep work areas secured and post warning signs, especially when you expect considerable traffic.
4. Follow the Hazard Communication Program in reference to safe practices of hazardous materials.
5. Hard hats must be worn whenever there is danger or injury from falling or flying objects, electrical shock; or a chance of bumping your head against overhead structures, moving equipment or swinging loads of material.
6. Protective eyewear must be worn where dictated by company rules and/or work hazards or exposures. Examples of hazards where protective eyewear is required includes work involving flying particles, chemical splash, glass breakage, sparks, or harmful welding rays. Mechanics must wear goggles when working under vehicles.
7. Appropriate hand protection must be worn to protect an employee's hands from exposure to hazardous substances, cutting, burning, or other physical hazards. Other hazards, such as dermatitis from poison ivy, can be prevented or reduced through protective barrier creams and post-exposure washes.
8. Appropriate hearing protection must be worn anytime there is danger of high noise levels, This especially true when using machines and power tools.
9. Good housekeeping is important to minimize workplace hazards. All employees are expected to clean their work areas periodically throughout the day and at the end of the work shift. All mechanics must be aware of slip hazards such as oil and use an absorbent to immediately remove the spill.



- j. The dado head must be taken off the saw arbor after use.
  - k. When helping to "tail-off" the saw, employees must never pull on a board being cut. They should hold the board up and allow the operator to push the stock through.
  1. Cylindrical stock must not be cut on the circular table saw.
  - m. Employees must never lower pieces of stock down over the saw. This operation is sometimes performed when cutting holes in rails for drawer fronts.
  - n. Ripping stock without using the ripping fence or crosscutting stock without using the sliding crosscutting fence is dangerous and forbidden. This rule applies also to dado head work.
  - o. Check line of saw before energizing. There must not be any material in the saw blade line.
  - p. Do not angle material when cutting on tilting arbor saw.
  - q. When sawing angles, be sure that saw on tilting arbor saw will clear on both sides before power is turned on.
  - r. The edge of a board which is along the ripping fence should be straight. Avoid ripping through loose knots or checks where large splinters may be cut loose and thrown by the saw.
  - s. Stand a little to one side of the saw line so that any kickback "I go past. Avoid letting wood hand between the fence and saw if possible.
  - t. Warped or twisted lumber that does not lie flat on the table should be used carefully. This type of lumber may cause a kickback.
- ### F. RADIAL ARM SAWS
- a. Do not wear loose clothing.
  - b. Push the saw back against the stop before turning on the power. Be sure the blade is not touching any wood when power is turned on.
  - c. Be sure the wood is firmly against the fence.
  - d. Never put one piece of wood on top of another to cut them on this saw. The top piece may kick over the fence.
  - e. Employees must remember that this saw pulls itself into the work. It may be necessary to hold it back in some hardwoods to prevent choking.
  - f. Do not pull a coasting saw out of the wood.
  - g. Do not work across the saw line with hands or arms. This is known

# Machine Shop Safety

## D. BAND SAWS

- a. Do not wear loose clothing.
- b. If you are not thoroughly familiar with the operation of a band saw, seek help from your supervisor.
- c. Check for proper blade size and type.
- d. Make sure that blade tension and blade tracking are properly adjusted.
- e. Adjust the upper guide on the band saw about 1/8" above the material being cut.
- f. Do not attempt to saw stock that does not have a flat surface unless a suitable support is used.
- g. Make "release" cuts before cutting long curves.
- h. Hold material firmly and feed into blade at a moderate speed.
- i. Always keep hands and fingers away from blade.
- j. Turn off the machine if the material is to be backed out of an uncompleted cut.
- k. Stop the machine before removing scrap pieces from the table.
- l. Shut off power and do not leave machine until it has come to a complete stop.

## E. CIRCULAR SAWS (Table Mounted)

- a. Do not wear loose clothing.
- b. The guard must be kept down over the saw while machine is being operated.
- c. The saw must not be raised above the table more than absolutely necessary to make the cut.
- d. A push stick must be used when ripping narrow pieces of lumber.
- e. The clearance block must be fastened to the fence when cutting off short pieces of stock.
- f. The fence must not be aligned unless the saw is completely stopped.
- g. Fingers must be kept clear of track or saw, and hands must never be allowed to cross saw line in advance of the end of the board while machine is in operation.
- h. Employees must never attempt to clear away scraps close to the saw with their fingers. If necessary, the scraps should be pushed away with a long stick (at least 30".)
- i. All special set-ups and dado heads must be inspected before power is turned on.

# Fall Prevention



According to recent National Safety Council statistics, falls account for about 25 percent of all accidents and injuries. To prevent fall type accidents, employees are expected to:

1. Watch where they are stepping/walking.
2. Maintain a clean work place - free of hazards.
3. Report hazards they cannot correct to their supervisor for correction.
4. Be particularly alert on stairs. Look for hazardous conditions such as obstacles or spills. Use the handrails if at all possible.
5. Be alert for the type of traction available. (Traction can be increased by providing slip resistant floors, and adding skid strips on steps and slip resistant floor paints.)
6. Watch for spills liquids and solid. Alert other employees immediately to hazards identified and clean up as soon as possible. Place signs when possible.
7. Wear shoes with slip resistant soles.
8. Do not carry objects that obstruct line of movement view.
9. Never jump from a platform, loading dock, vehicle, etc.
10. Check safety harnesses/belts, scaffolds, and lines each time prior to using.
11. Do not use ladders, safety harnesses, or scaffolds unless you have been trained to do so.



# Machine Shop Safety

## Lifting & Material Handling

- A. Evaluate the load to be lifted. Is there any other way to handle the task, such as using a mechanical device. Do not attempt to lift it alone if it cannot be done safely.
- B. Never carry a load of such size that it reduces your visibility, especially when going up or down stairs.
- C. Use dollies on heavy objects such as trash cans.
- D. Use two people to carry bulky or awkward loads.
- E. Push, rather than pull a load where possible. Pushing naturally places your legs in position to do the work whereas pulling places your back in a forward bent position.
- F. Use the eight step lifting technique:
  - 1. Plan the job. Use a clear route.
  - 2. Size up the load. Get help if needed.
  - 3. Establish a base of support. Keep firm footing.
  - 4. Bend your knees to get a good grip on the load.
  - 5. Get a good firm grip.
  - 6. Keep the load close to your body if possible.
  - 7. Lift with your legs, not your back.
  - 8. If you make a turn while carrying a load, pivot with your feet and don't twist. Twisting places more strain on your back.



- 7. Grinding wheels shall fit freely on the spindle and shall not be forced on. The spindle nut shall be tightened only enough to hold the wheel in place.
- 8. All employees using abrasive wheels are required to wear protective eyewear. Eye protection attached to the grinder does not provide adequate eye protection. All eye protection should conform to ANSI standard, Z71.
- 9. Set tool rest close (1/8") to stone to prevent piece being ground from catching between rest and stone. Make this adjustment while machine is at a dead stop.
- 10. After all preparations have been made, stand to one side when turning power on. A faulty stone ordinarily breaks at the start.
- 11. Grind on the face of the wheel, never on the side.
- 12. Badly worn or out-of-round wheels will be dressed or replaced.
- 13. Abrasive wheels and tools used by employees should meet other applicable requirements of ANSI, B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels.

### Abrasive Finishing Machines

- a. Do not wear loose clothing.
- b. Never wear gloves or hold the work with a rag when sanding.
- c. Make sure the belt is tracking correctly.
- d. Make certain the disc or belt is not loose or torn.
- e. Always use a backstop when using the belt sander in the horizontal position.
- f. Always sand on the downward side of the disc when using the disc sander.
- g. Sand with the grain of the wood, when possible.
- h. Keep hands away from abrasive surfaces.
- i. Shut off power and do not leave until the machine comes to a complete stop.

# Machine Shop Safety

## C. ABRASIVE WHEELS AND TOOLS

Grinding machines shall be equipped with safety guards in conformance with the requirements American National Standards Institute, (ANSI) B.I-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels.

1. Floor stand and bench mounted abrasive wheels used for external grinding shall be provided with safety guards (protections hoods.) The maximum angular exposure of the grinding wheel periphery and sides shall be not more than 90 degrees, except UW when work requires contact with the wheel below the horizontal plane of the spindle, the angular exposure " not exceed 125 degrees. In either case, the exposure shall begin not more than 65 degrees above the horizontal plane of the spindle. Safety guards shall be strong enough to withstand the effect of a bursting wheel.
2. Floor and bench-mounted grinders shall be provided with work rests which are rigidly supported and readily adjustable. Such work rests shall be kept at a distance not to exceed one-eighth inch from the surface of the wheel.
3. Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the ANSI, B7.1-1970 Safety Code for the Use, Care and Protection of Abrasive Wheels.
4. When safety guards are required, they should be mounted so as to maintain proper alignment with the wheel, and the guard and its fastening shall be of sufficient strength to retain fragments of the wheel in case of accidental breakage. The maximum angular exposure of the grinding wheel periphery and sides shall net exceed 180 degrees.
5. When safety flanges are required, they shall be used only with wheels designed to fit the flanges. Only safety flanges of a type and design and properly assembled so as to ensure that the pieces of the wheel will be retained in case of accidental breakage shall be used.
6. Abrasive wheels should be closely inspected & ring-tested before mounting to ensure that they are free from cracks or defects.

## Ladder Safety Rules



- Pick the ladder type for the job you are doing... make sure it is not too short or too tall.
- Step-ladders must be fully opened for safe use.
- Inspect the feet, hinge points and all ladder rungs and treads. Also check all side rails and locking points for damage or wear.
- Check for oil or dirt buildup that can cause you to loose your footing.
- Ladder treads or rungs should have a *Non-Skid* surface... check that this surface is not worn smooth.
- Extension ladders should extend at least three feet above any step-off surface such as a roof or other platform.
- Don't use a ladder with any broken, loose or missing parts... if you find a ladder like this, tag it with a DANGER - DO NOT USE label until it can be repaired or discarded.
- Read the label on the ladder to make sure you know the specific safety information the manufacturer has provided.
- Don't use ladders with metal side rails if there is any possibility of coming in contact with live electrical circuits.
- Never exceed the ladder maximum load or weight rating.
- Only one person on a ladder at a time.
- Never setup a ladder in a doorway unless you can ensure it remains locked.
- Always face the ladder.
- Never lean back or away to either side.
- Don't carry anything up ladders, use a carrier, tool belt, hoist or have someone hand you the material after you are in position.
- Maintain a 3-point contact with the ladder at all times – two feet and one hand or two hands and one foot.
- Don't stand on the top step of a step-ladder.

# Machine Shop Safety

## Chemical Safety

- A. Protect yourself! Know the chemical hazards, properties, and safety precautions for materials used in performance of your job.
- B. DO NOT MIX INCOMPATIBLE CHEMICALS - only mix with water. Mixing two chemicals with each other may produce a hazardous mixture.
- B. READ PRODUCT LABELS. Mix product in recommended solutions. Ask your supervisor how to mix a solution (i.e., 4 to 1, 10 to 1), etc. if you are uncertain. More is not necessarily better.
- C. Wash your hands after using any chemical, including dishwasher.
- D. NEVER transfer chemicals from one container to another. Measure only what you will use during your work shift.
- E. Be careful Be careful when using full strength chemicals. Always wear proper personal protective equipment.
- F. Don't bring cleaners from home. Use only products that are purchased for the district.
- G. Familiarize yourself with the location of the department MSDS information and Hazard Communication Program. Material Safety Data Sheets (MSDS) should be available for each chemical in use and are available to all employees during their assigned shift.
- H. Store ALL chemicals away from food. Use a separate storage area.
- I. Do not eat, drink or smoke in areas where hazardous chemicals are mixed or stored.



- q. Lubricate equipment according to the manufacturer's instructions.
- r. In most cases the size of the machine governs the size of the stock that can be safely machined. Large pieces should not be machined on small machines, and small pieces should not be machined on large machines.
- s. Many times the same operation can be performed on more than one machine. Choose the appropriate machine. Consult your supervisor if you have any questions.
- t. Plan each operation carefully before turning on the power. Consult your supervisor if you have any questions.
- u. When operating a machine, allow no one else to start or stop the machine for you.
- v. Stock should be fed into the machine at a rate the machine can handle. Allow the machine to reach maximum RPM before feeding stock.
- w. Do not take your eyes off the operation. Do not allow others to watch the machine if they are not using proper safety precautions.
- x. Do not interrupt the operator while the machine is running. Wait for the operator to finish the process before talking with the operator.
- y. Do not stand either as an operator or as an observer in the machine's rotational path.
- z. All safety guards must be kept in their proper positions while machines are being operated. If a guard is missing, inform your supervisor immediately.
- a1. Shut off the machine at the first sign of problems such as noise, vibration, etc.
- a2. Allow the machine to come to a complete stop before making changes, taking measurements, or working on or near the work platform of the machine.
- a3. Always shut off the power to an unattended machine.
- a4. Place notification signs on the machine when the machine is not in working order. These should be obvious to any possible user. Disconnect the power.
- a5. Follow proper Lockout/Tagout procedures when repairing or maintaining the equipment.

# Machine Shop Safety

- d. Report any malfunctions or necessary maintenance to your supervisor.
- e. In the event of an accident, notify your supervisor IMMEDIATELY.
- f. Secure all loose clothing before entering the work shop. Watches, rings, neckties, gloves, and long shirt sleeves are dangerous around power machinery. Where there is a danger of getting the hair caught in the machines such as the drill press, a shop cap will be worn.
- g. Wear eye shields or goggles +when operating any tool or machine. A face guard may be necessary to protect against flying debris. Wear a respirator if the process is dusty or produces a toxic atmosphere.
- h. Defects in materials such as warp, loose knots, and checks can cause serious accidents. Check with a supervisor before machining defective materials.
- i. Before performing machining operations on short pieces of wood, check with the supervisor. Anything under 24 inches is a short piece.
- j. Use each machine for their intended operations only.
- k. All electrical machines shall be properly grounded or double insulated.
- l. Keep the machine table clean at all times. Remove all wrenches, tools, and debris before starting the machine. Keep the floor around the machine clear of scraps and litter.
- m. All cutting edges, such as circular saw blades, shaper cutting saws and the like must be used only when in serviceable condition and sharp.
- n. Make and secure all adjustments before starting the machine.
- o. Pull the master switch or disconnect the plug from the wall receptacle before making repair, changing blades, cutter, knives, lubricating or sharpening knives on any powered equipment. Refer to Lockout/Tagout program as needed.
- p. Many machines have locks which must be unlocked before adjusting. Make sure that these locks are secured before restarting the machine.

# Bloodborne Pathogens

The Texas Department of State Health Services (TDSHS) requires school districts to have a program for employees with a potential “*occupational exposure*” to Bloodborne Pathogens. The program is required to include employee training guidelines as well as control measures that school districts implement to prevent potential “exposure incidents.”

**Bloodborne Pathogens (BBP)** are defined as microorganisms such as viruses or bacteria that are carried in blood and can cause disease in people (i.e., Hepatitis B & C, HIV).

**Occupational Exposure** refers to reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials (OPIM) that may result from the employee’s normal job duties.

**The RGCC ISD Exposure Control Plan (ECP)** is maintained at the **District Main Office**. The **Risk Manager** and should be contacted if you have questions, need additional information, or would like to discuss guidelines in the **ECP**.

## General BBP Information

Bloodborne Pathogens are not transmitted through casual contact with infected persons since intact skin generally provides a protective barrier. *Occupational Exposure can be caused by:*

- Accidental puncture from contaminated needles, broken glass, or other sharps.
- Contact between broken or damaged skin (i.e., Open sores, cuts, abrasions, acne, sunburn, blisters, etc.) and infected body fluids.
- Contact between mucous membranes and infected body fluids.

Work related situations that potentially increase risk of exposure to infection include during the provision of first aid treatment, cleaning up spills of blood or other body fluids, or in other medical situations involving care and treatment. The ECP provides specific safety guidelines for each of these areas.

RGCC ISD’s policy requires that all employees follow “**Universal Precautions**.” in dealing with potential exposure situations. That means treat all bodily fluids **as if they are infected**.

**If you suspect that you may have come in contact with blood, body fluids or OPIM, report it to your supervisor immediately.**

# Machine Shop Safety

## Lockout/Tagout



Lockout/tagout procedures have been developed and implemented to protect employees from contact with energized circuits, or sudden releases of stored energy. Energy sources may include electrical, pneumatic, hydraulic, or mechanical. It is important to locate and neutralize all sources of energy before repairing or maintaining equipment.

The following minimum safety guidelines are provided:

1. Plan. Employees and/or supervisors should plan the entire procedure. Identify all parts of any systems that need to be shut down. Determine what switches, equipment, and people will be involved and how restarting will take place.
2. Communicate. Notify all employees that need to know when the lockout/tagout procedures are in effect.
3. Identify all appropriate power sources. All appropriate power sources should be identified whether near or far from the job site. This includes electrical circuits, hydraulic and pneumatic systems, spring energy, and gravity systems.
4. Neutralize all appropriate power at the source. Disconnect electricity. Block moveable parts. Release or block spring energy. Drain or bleed hydraulic and pneumatic lines(s). Lower suspended parts to position and block.
5. Lockout all power sources. Each lock should have personal lock, labeled with his or her name, and department. Clips, chains and lockout boxes may also be used.
6. Tagout all power sources and machines. Tags must explain the reason for the lockout. The name of the person who install them, how to reach them and the date and time of tagging. Machines controls, pressure lines, starter switches, and suspended parts should be tagged.
7. Complete test. All items above will be doubled checked. This includes start buttons, test circuits and valves to test the system.
8. After the job is completed, the safety procedures should be followed to restart. Power will not be restored until all workers are safe and equipment ready.

### A. GENERAL

1. Maintenance shops should be entered only by persons related to the particular activity of the shop. Others must be accompanied by a supervisor, wear appropriate safety apparel, and abide by all shop safety rules.
2. Each person is responsible for housekeeping in their respective work area. Housekeeping is a part of the process, not an end result and should take place throughout each work shift so that hazards are not allowed to build or accumulate. Housekeeping rules will be strictly enforced by supervisors.

### MACHINE GUARDING

1. Hazardous parts of machines, such as industrial paper cutters, saws, grinders, planers, shears, etc., that can cut, grind, crush, pinch, shock or otherwise cause employee injuries, will be guarded in a manner that injuries will not occur.
2. Guards will not be removed from machines while the machine is being operated for normal use.
3. When machine guards must be removed for repair or maintenance, guards will be replaced before normal use.
4. Standard operating procedures (SOP) will be obtained or prepared for all hazardous machines; employees will be trained to comply with the SOP, and supervisors will enforce the SOP.
5. A red tag saying "Danger. Unsafe, Do Not Use" will be placed on all unsafe machines or the machine will be removed to a secure place where it cannot be used until repaired or otherwise made safe.

### B. SAFETY PROCEDURES

The following safety procedures apply to all machinery and must be observed by employees AT ALL TIMES when operating power tools and machinery.

- a. No employee should not use a machine until they have received instructions on the safe use & demonstrated their proficiency.
- b. Horseplay is absolutely forbidden.
- c. When help is needed, call your supervisor before initiating aid to the injured.

# Welding & Cutting Safety

16. Proper strikers should be used when lighting torches. Cigarette lighters and matches should not be used.

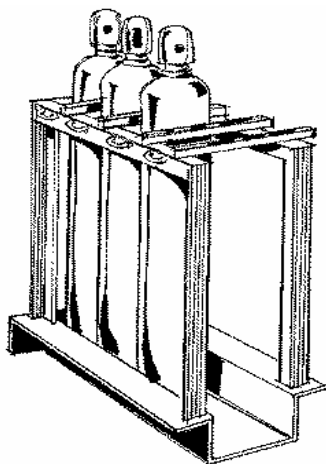
## Welding Helmets and Hand Shields

1. Inspect the equipment before each use and if any part is damaged, see that entire unit is repaired or replaced promptly.
2. Keep oil, water, and dirt from helmets and hand shields. Clean them promptly with a dry cloth.
3. Keep leather sweat bands clean by occasional washing with castille or saddle soap.
4. Store helmets and shields in a large locker or box so that they cannot be bent or crushed by tools.



## Compressed Gas Cylinders

1. Compressed gas cylinders are "sleeping giants." If not properly handled, they can explode or become an uncontrollable projectiles destroying everything in the path of flight.
2. Gas cylinders should not be stored in direct sunlight.
3. Gas cylinders should be kept in racks, stands, or secured with a lash or chain in an upright position. Valve covers will be in place at all times while stored.
4. Gas cylinders should never be dropped or treated roughly.
5. Areas in which compressed gases are used should be properly ventilated.
6. Training should be provided in the use and handling of compressed gas cylinders if your job duties require use.
7. When changing out compressed bottles of gas there shall be two employees involved at all times.
8. Chlorine is a compressed gas and shall fall under these general rules as well as the rules specific to chlorine cylinders.
9. Acetylene cylinders will never be placed in the horizontal position when in use.



# Electrical Safety

120 volts can kill. Do not attempt to repair defective wiring or other electrical equipment while equipment is energized.

All equipment should be repaired and/or maintained in accordance with the District Lockout/Tagout procedures when necessary.

Only trained and qualified employees are permitted to work on or repair electrical circuits and equipment. If you are not trained to repair the equipment, report the defective equipment to your supervisor.



The following general electrical safety rules are provided:

- Assume all circuits are "hot" until you have locked, tagged and checked them with a volt-meter.
- Use insulated tools.
- Discharge all capacitors before starting work on equipment.
- When using a voltmeter, check it for damage, then check it against a known "live" source of the same voltage before you use it to check the work area de-energized.
- **Don't work on energized equipment** unless you can meet all these precautions:
  - Specific approval each time
  - Electrically rated PPE
  - Remove all metal - glasses, belt buckle, jewelry
  - Safety attendant standing by
  - No standing water
  - Work area is roped off
- Never reach "blindly" into an energized work area
- **Immediately report** all electrical hazards to your supervisor.
- Never use a power cord if the ground plug is broken.
- Electricity & water make a bad combination.
- Never use electrical equipment if you suspect flammable or explosive vapors are in the area.

# Heat Stress

Heat stress occurs when heat causes your body temperature to rise above normal. Heat stress can cause:

- **Heat stroke**—The most serious heat-related health problem. It occurs when the body's temperature regulatory system fails and sweating becomes inadequate.
- **Heat exhaustion** - This is caused by the loss of large amounts of body fluid by sweating, sometimes with excessive loss of salt. A person suffering from heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache.
- **Heat cramps** – Painful spasms of the muscles that occur among those who sweat profusely in heat, drink large quantities of water, but do not adequately replace the body's salt loss.
- **Fainting** — May occur to a person not accustomed to hot environments and who stands erect and immobile in the heat.
- **Transient heat fatigue** — A temporary state of discomfort and mental or psychological strain caused by prolonged heat exposure.

## General Safety

- Don't wear dark, tight-fitting clothes.
- Don't eat heavy meals before working in the heat.
- Cover as much of your body as possible.
- Keep drinking water close by.
- Don't drink alcohol or drinks with caffeine.
- Know and react to symptoms of heat-related health problems.
- Adapt to working in hot conditions gradually— Take it easy for the first week of hot weather or after an extended vacation or returning to work after an injury or illness.
- Drink water frequently.
- Wear personal protective equipment designed for hot environments.
- Always use the fans, ventilators, exhaust systems and heat shields that are available.



Water intake during the workday should be about equal to the amount of sweat produced. Don't depend on thirst to signal when and how much to drink.

**If you observe someone showing symptoms of heat stress, get medical help immediately!**

# Welding & Cutting Safety

1. Inspect equipment before each use and if any part is damaged, repair or replace it before use.
2. Wear clothing that protects all body parts from the rays of the arc and metal sparks.
3. Wear leather shoes that extend above the ankle & trousers that extend below the top of shoes. Trousers should not have cuffs.
4. Hoods should be in place before you strike an arc and at all times while welding. Hardened filter lens goggles shall be worn under the hood.
5. Welder's helpers should be protected in the same manner when in the immediate work area.
6. Shields should be in place to protect other employees from the rays of the arc.
7. Wear suitable eye and face protection whenever cutting or welding is performed.
8. Protect or move flammable materials and ensure that a fire watch, with an extinguisher, is at hand before starting work in hazardous areas. The fire watch should extend at least thirty minutes after the final cut or weld has been made.
9. An appropriate fire extinguisher should be provided near the welding operation at all times.
10. Store rod stubs in a container. Do not drop them on the floor where they will create a slip hazard.
11. Compressed gas cylinders should be stored and transported in an upright position and secured with a lash or chain.
12. Caps should be kept on all cylinders when not in use. All compressed gas cylinders should be shut off at the cylinder valve and the regulator. A regulator is not a shut off valve.
13. Empty cylinders should be plainly marked "Empty" and the valves closed with valve caps in place. The cylinders should be chained in an upright position.
14. Leather welders work gloves, aprons, and sleeves should be worn in all welding operations.
15. Welders mittens should be worn when handling hot material that has been welded by electric arc or cut with an oxy-



# Construction & Maintenance Equipment

- a. Equipment shall have installed and operational, the prescribed safety equipment, lights, flags, and devices.
- b. Regular inspections should be made on all equipment & inspection reports maintained on file to indicate action taken to remedy unsafe conditions.
- c. Reciprocating or rotating parts on equipment (i.e., belts, pulleys, sheaves, gears, chains, shafts, clutches, drums, fly wheels, etc.) should be guarded.
- d. Employees should not jump on or off equipment. Foot-walks, steps, ladders, hand holds, guard rails, etc., installed on equipment should be used where provided.
- e. Positive means should be provided to prevent the starting of equipment in a position except from the operator's seat and to prevent the equipment from being started by unauthorized persons.
- f. Equipment should be set and locked so that it cannot be released, dropped, or activated in any manner when work is completed.
- g. Equipment shall not be refueled while the motor is running.
- h. Smoking, or the use of open flames, on or in the immediate vicinity of gasoline-operated equipment while it is being refueled, is prohibited.
- i. Fuel tank openings should be positioned so that spills or overflows can not run down on to hot motors, exhaust pipes, or batteries.
- j. Equipment supported by hoists or jacks shall be blocked before employees are permitted to work underneath.
- k. Debris, oil, grease, oily rags, or waste shall not be allowed to accumulate on or near the equipment.
- l. Equipment should be kept a safe distance from excavations.
- m. Equipment shall be used only for the purpose for which it was designed.
- n. All equipment operators shall be assigned a spotter when operations require backing, or when driving in an area where personnel cannot be seen from the operator's seat.
- o. Loose instruments, tools, etc. should not be carried in equipment, but held securely in racks or boxes permanently installed.
- q. No one shall get under, or place any part of their body under any type of raised hydraulic ram or cylinder unless the equipment is braced, blocked, or has a definite method designed to prevent its falling.
- r. The boom on equipment shall not be positioned closer than 10 feet to any power transmission lines.



# Insects

Stinging/biting insects common to the Houston area include bees, wasps, hornets, yellow jackets, fire ants, spiders, and caterpillars. Many insects become more active during warm weather months and can cause many health related problems.

## Stinging Insects

- Stinging insects such as wasps and bees are especially attracted to sweet fragrances (perfumes, colognes, hair sprays), picnic food, open soda and beer containers, and garbage areas.
- Avoiding these attractants will lessen a person's chance of being stung.

## First Aid

- Bees will sting only once leaving the barbed stinger in the flesh.
  - To remove the stinger scrap with a credit card or other object.
  - **DO NOT** pinch and pull out the stinger, this will inject more venom.
- Wasps, hornets and yellow jackets repeatedly sting leaving no stinger behind.
- If breathing difficulties develop, or if the person appears to be having an adverse reaction, Dial 9-1-1. Get Prompt medical care.
- Wash bite/sting area well with soap and water.
- If stung or bitten on the fingers or hand, remove any rings or jewelry in case of swelling.
- Apply a cold compress.

## Mosquitoes

- Apply insect repellent containing DEET (i.e., Off, Cutter, etc.) when you're working outdoors.
- When possible, wear light colored, long-sleeved clothes and long pants treated with repellents containing since mosquitoes may bite through thin clothing.
- If you spray your clothing, there is no need to spray repellent containing DEET on the skin under your clothing. Always follow the recommendations on the product label when using repellent.
- Plan the workday so that you are indoors at dawn & dusk, which are peak mosquito biting times.
- When working outdoors, remove standing water in pots, gutters and other retainers in your work area.



# Fire Safety

## Fire Prevention

- Store flammable liquids only in approved containers & authorized areas.
- No open flames near flammable material.
- Do not overload electrical circuits.
- Properly maintain and operate gas fired equipment
- Practice good housekeeping – don't let trash accumulate.
- Turn off personal electric heaters.
- Follow Hot Work procedures.
- Properly extinguish cigarettes.
- Smoke only in approved areas.

## During an emergency:

- A. Make sure that local authorities have been notified.
- B. Confirm that all persons have left or are leaving the building or work area.
- C. If you decide to use an extinguisher, make certain that you have an unobstructed path to safety.
- D. The extinguisher must be in the affected area and in working order, and fully charged.
- E. Be certain that the extinguisher is the proper type and size for the fire being fought.
- F. If unable to extinguish the blaze, immediately leave the area.

## Using a Fire Extinguisher

1. Fire Extinguishers are for small fires in the early stages.
2. Use an extinguisher ONLY if you have been trained to use it.
3. Use the "P-A-S-S" technique.
4. Stand 6 to 8 feet away from the fire.
5. Never place a pressurized fire extinguisher upright unless you are holding it - if it falls over the nozzle can break off
6. All fire extinguishers should have an inspection tag and a trigger seal and a pin.
7. After use, do not put a fire extinguishers back on its mounting – it must be refilled before being returned to its location.

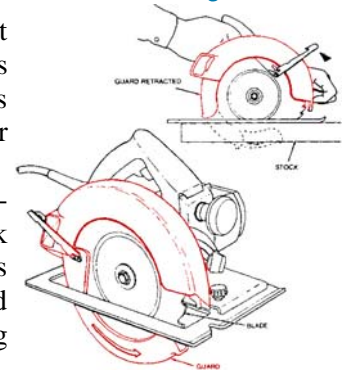
### "P-A-S-S"

Pull the pin  
Aim at base of fire  
Squeeze the handle  
Sweep from side to side



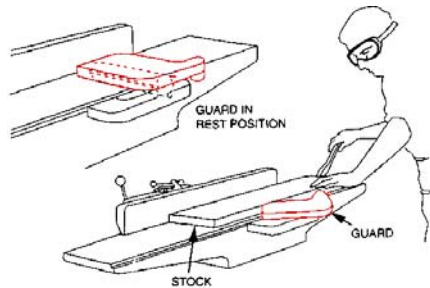
# General Machine Safety

12. When setting up work or removing it from a machine, make certain there is sufficient space to protect your hands from striking against the cutting tool or other machine parts.
13. In cutting, drilling and shaping operations, it is very important for the work to be properly secured in place. This helps to prevent against struck-by and struck-against type hazards from flying fragments.
14. Always use the correct tool for the job. Arrange your work area so you can easily locate your tools.
15. Be certain that cutting tools are properly secured and set in place so they will not dig into the work.
16. Do not attempt to slow or stop machines by placing hands on the belt or other moving parts. Press brakes or clutches should be installed to prevent equipment from running after it is turned off.
17. Unusual conditions should be reported to your supervisor ASAP. Excessive vibration, noise or stalling may signify that a machine is in need of repair and it may not be safe to operate.
18. If the work or cutting tool becomes loose, or the tool digs into the work, shut off the power immediately and correct the condition while the machine is stopped. Never work on a energized machine.
19. Do not talk with fellow employees or other persons while operating machinery. Attention must be kept on the work and eyes on the point of operation.
20. Before leaving a machine for any reason, shut off the power and wait until the machine stops.
21. Practical jokes can result in injury and must be avoided. No horseplay will be allowed under any conditions.
22. Never use compressed air to clean yourself or others.
23. Obey all warning signs and tags. Never remove a tag and start a machine without first consulting the employee listed on the tag.



# General Machine Safety

1. No employee should operate a machine until they thoroughly understand its use, safety measures and have had all their questions answered. Supervisors are responsible for oversight of machine operators..
2. When operating machinery, suitable attire must be worn. All loose fitting objects must be tucked into the pants or removed. Jewelry is not allowed when operating certain machines, see your supervisor. Long hair must be covered for operator safety.
3. Machinery must be stopped and locked in an "off" position before being oiled, lubricated or adjusted.
4. Chips, dust, shavings or other debris must be cleaned from the machine before use.
5. Before starting a machine, check all operating points, operating area, and guards. Tools must be in the proper place and the work area around the machine free of hazards.
6. Never remove machine guards or render them inoperative.
7. Operating devices should be periodically tested to be certain that the machine can be stopped quickly in an emergency.
8. When grinding on a bench or floor stand equipped with a shield, the shield should be properly adjusted before turning on the power. If the shield is dirty, clean it. Don't operate the grinder without the shield for even small jobs.
9. Always wear goggles and a face shield when operating a portable grinder.
10. When operating a machine equipped with a tool rest, the tool rest should be properly adjusted ( must be within 1/8" of the wheel).
11. If flying chips endanger others working or passing near a machine, use a shield or screen to protect anyone in the hazard area.



## Hand Tools



### GENERAL

1. Use the right tool for the job. Screwdrivers are not to pry bars, and wrenches are not hammers.
2. Appropriate personal protective equipment, e.g., safety goggles, gloves, etc., should be worn that is reflective of the hazards that may be encountered. If you have questions regarding this requirement, consult with your supervisor prior to using the equipment.
3. Tools should never be thrown, left in a high place where they may fall, or left where they may cause a tripping hazard.
4. Tools should be used for the purpose for which they were designed.
5. Knives or other sharp-edged tools should not be pulled toward the body while in use.
6. Hardened steel tools should not be stuck together. When striking metal against metal, eye protection must be worn.
7. When filing sharp-edged tools, the file should be held in a manner that the employee's hand will not be cut by the sharp edge of the tool or file.
8. Tools, when not in use, should be stored in a safe place. Tools will be stored with the sharp edges protected.
9. Sparks produced by iron and steel hand tools can be a ignition source for flammable substances. Where this hazard exists, only spark-resistant tools should be used.

### HAMMERS

1. Appropriate hammers should be selected for each job. Undersized hammers pose just as great a threat as oversized hammers.
2. Hammers should be inspected regularly. Disfigured hammers, hammers with rounded heads, or hammers with broken, split, or distorted handles will not be used.

### WRENCHES

1. Wrenches should be selected according to the job.
2. Wrenches should be periodically inspected for wear and defects. Defective equipment should be replaced.
3. Home made extensions, or "cheater bars," should not be used. Only approved wrench extensions are allowed.



## Hand Tools



### CHISELS AND METAL STAKES

1. Metal stakes should not be improvised.
2. Bull chisels or metal stakes requiring two men to drive should be held with tongs or a chisel holder. The person swinging the sledge hammer should not wear gloves.
3. When possible, the chisel should be held lightly in the hollow of the hand. Hand protection should be worn on the hand holding the chisel.
4. Goggles should be worn by persons driving, or assisting in driving, metal stakes or chisels, or working in the immediate vicinity.
5. In very cold weather, a chisel should be warmed before use.
6. Chisels should be inspected frequently and kept well dressed.
7. In using chisels for wood cutting, care should be taken to be sure that the wood is free of nails and metals.
8. Chisels should not be driven toward the body.

### CUTTERS

1. The correct size cutters will be used to cut bands, wires, rods, bolts and other objects.
2. When possible, material will be cut straight across.
3. Safety glasses will be worn when using cutters.
4. Hammers or pry bars will not be used to snap metal bands. Hand protection should be used at all times when cutting bands.

### FILES

1. Files are extremely hard and should not be used as a pry bar, a center punch, a chisel, or other tools.
2. A broken file, or one without a handle should not be used. A washer-type guard should be used in front of a sharp handle.

## Power Tool Safety

Power used by tools to do work can possess a tremendous amount of energy that must be controlled by the worker using the tool. Hazards from tool power sources affect not only the person using it, but also to those working close by. The following general safety guidelines are provided regarding power tool use:



1. Do not attempt to repair defective wiring or other electrical equipment. Do so only if properly authorized and qualified.
2. In cases of overheating, sparking, smoking motors, wiring, or other unsafe conditions of electrical equipment, turn off the power and report the condition to your supervisor.
3. Do not use electrical equipment or activate circuits if hands are wet or if standing on wet ground.
4. When turning on a light at the socket or switch, never take hold of equipment with the other hand.
5. When using extension cords, be certain these cords and fixtures are in good condition.
6. All power tools must be either grounded or double installed. If the equipment is to be grounded, ensure that the plug has all three prongs on it.
7. Extension cords must never be run across aisles or through oil or water.
8. Cords must be inspected for nicks, worn insulation, and exposed strands or wire before use. These repairs should be made before continued use of this equipment.
9. Keep electrical equipment properly oiled and free of grease and dirt.
10. If a fire breaks out in live electrical equipment, immediately shut off the power source. Fire fighting must be performed by trained personnel using proper extinguishers and equipment.
11. To free a person from contact with electrical current, (preferably turn the current off) use a stick, pole or rope. Don't touch the victim until the contact is broken.