



Hazards and Safe Working Practices for Power Tools and Festival Equipment PSF Scene Shop

Power tools include large stationary machines and portable hand operated tools. These tools can be dangerous due to the electricity and air driven blades and cutters. Use caution while using and making adjustments to these tools. All personnel, students and volunteers using these tools shall have received training, passed the tool qualification process, and have signed documents on file before they are allowed to work in the shop.

General Rules for Stationary Power Tools:

1. Safety Glasses are required when using all power tools in the Scene Shop and ancillary spaces.
2. Do not operate a machine without safety guards in place and in good working condition.
3. Think through all operations carefully before starting the machine; Think Twice, Measure Twice, Cut once, Measure AGAIN.
4. Check the setup of the machine carefully for each job before turning the machine on.
5. Never leave a machine unattended while it is still running or coasting.
6. Never leave a machine until the blade has completely stopped moving.
7. Avoid over reaching. Keep proper footing and balance at all times.
8. Ask for help when handling long, wide, or awkward pieces. Designate your job assignments before starting the operation.
9. Make sure spectators and workers do not stand directly in line with revolving cutters or stock. Concentrate on what you are doing, not on the spectator.
10. While using the machine, listen to it. If it does not sound right, turn it off and get help from a supervisor.
11. Do not use hands, stick or other material to slow down or stop a coasting blade.
12. Do not cut, drill or shape until motor is at top speed.
13. Always disconnect power supply (unplug from wall outlet or air hose) before servicing or changing blades.
14. Clean up after yourself.

General Rules for Portable Power Tools:

1. The following rules are in addition to those above.
2. Use only a tool that can handle the job adequately.
3. Inspect tool for proper setup and working condition before starting motor. Report any damaged machine to supervisor.
4. When a power tool is not in use, unplug it. Do not pull the plug from the receptacle using the cable, pull on the plug only.
5. Hold the tool firmly with both hands. Use a vise or clamp to secure work whenever possible.
6. Do not run tool while carrying it.



7. Before plugging in any tool, check to ensure power button is in the "OFF" position.
8. Clean up after yourself.

Ladders and Personnel Lifts

1. Do not stand on top of any ladder.
2. When climbing use 3 points of contact at all times.
3. Do not lean or overreach while on the ladder or personnel lift.
4. Always adjust and lock outriggers and spanning arms before climbing.
5. Outriggers but be in place and secured before raising the personnel lift.

In the following section, all rules are in addition to those in the sections above.

Radial Arm Saw

1. Hold stock against fence using your left hand while pulling blade with your right. Do not cross your arms or hands in front of the blade.
2. Do not use guard to pull blade.
3. Do not reach in front of turning blade to remove or adjust material.
4. Turn off breaker when servicing or changing blade.
5. Safety glasses and hearing protection required.
6. Make sure blade is up to full speed before cutting.

Table Saw

1. Set blade approximately ½" above material.
2. Guard must be in place at all times except when using machine to make dado cuts.
3. Guard may only be removed under the supervision of the Shop Supervisor or Technical Director.
4. Use push sticks as needed. Replace push sticks as they wear out.
5. Never let go of the material while cutting.
6. Return blade to 90 degrees when finished with beveled cuts.
7. Safety glasses and hearing protection required.

Band Saw

1. Set guard to clear material by approximately ½".
2. Change blade as needed.
3. Safety glasses and hearing protection required.

Drill Press

1. Clamp work to table; do not attempt to hold material in place with hands.
2. Use scrap wood under the piece being drilled to prevent drilling in to table.
3. Use cutting oil when drilling steel.
4. When using vise, clamp it securely to the table. Do not drill into vise.
5. Safety glasses required.
6. Double check that the Chuck Key is removed from the Chuck before starting.

Sliding Compound Miter Saw (Chop Saw)

1. Use table extensions to help control material.
2. Do not let go of the handle until blade has made a full stop.
3. Always return blade to starting position.



4. Make sure tool is resting firmly on ground and will not roll around.
5. Make sure blade is up to full speed before cutting.
6. Safety glasses and hearing protection required.

Sander

1. Keep work securely on table.
2. Do not wear loose jewelry or clothing when using this machine.
3. Use nuisance dust masks.
4. Safety glasses and hearing protection required.

Shaper/ Router Table

1. Know which way the blades must turn to cut.
2. Use finger boards whenever possible.
3. Make sure machine is resting firmly on the ground and will not roll around.
4. Safety glasses and hearing protection required.

Circular Saw

1. Blade should be through material by approximately ½”.
2. Secure material to work bench before cutting.
3. Use guide whenever possible.
4. Use both hands to operate tool.
5. Safety glasses and hearing protection required.
6. Make sure blade is up to full speed before cutting.

Jig Saw

1. Use correct blade for the job.
2. Be aware that blade is often exposed and out of sight.
3. Keep hands at least 6” from blade.
4. Secure material so it will not move while cutting.
5. Move tool slowly to ensure smooth, vertical cut.
6. Safety glasses and hearing protection required.

Hand Drill (Corded and Battery powered)

1. Make sure bit is secured and properly adjusted in chuck.
2. Recharge batteries in proper chargers only.
3. Use side handle when drilling steel.

Hand Sander

1. Use nuisance dust masks when necessary.

Router

1. Feed cutters through work from proper direction.
2. Always test on a piece of scrap first.
3. Safety glasses and hearing protection required.

Reciprocating Saw

1. Make sure material will not move or shift during cutting.
2. Make sure blade is properly adjusted and secure before cutting.
3. Use appropriate bit for material.



4. Safety glasses and hearing protection required.

Roto-Zip/Dremel

1. Install proper blades only.
2. Be aware that blade sticks out other side of material and is exposed.
3. Safety glasses and hearing protection required.

Pneumatic Stapler and Nailer

1. Load only with appropriate fasteners.
2. Unplug from airline before servicing, changing, or reloading fasteners.
3. Never point tool at anyone else, even if it's not plugged in.
4. Do not defeat safety catch.
5. Safety glasses and hearing protection required.

Abrasive Steel Saw

1. Clamp work securely before cutting. Double Check!
2. Do not attempt to secure material with hands only.
3. Do not use blade to grind edges of steel.
4. Make sure tool is resting firmly on ground and can not roll around.
5. Safety glasses and hearing protection required.

Dry Cut Steel Chop Saw

1. Clamp work securely before cutting. Do not attempt to secure material with hands only. Double Check!
2. Make sure tool is resting firmly on ground and can not roll around.
3. Safety glasses and hearing protection required.

Bench Grinder

1. Use vise grip to maintain control of material when necessary.
2. Do not attempt to secure material with hands only.
3. Tool rest should be no more than 1/8" from grinding wheel.
4. Safety glasses and hearing protection required.

Handheld Grinders

1. Be aware of where sparks are flying during cutting.
2. Do not use near flammable materials.
3. Make sure material will not move or shift during cutting.
4. Safety glasses and hearing protection required.
5. Use side handle when possible.

Welders

1. Opens doors to assist in ventilation when possible.
2. Use welding screens to protect other shop personnel from exposure to arc flash and metal spatter.
3. Welding screens must be used to protect pedestrian from arc flash and metal spatter when outside shop doors are open.
4. Check all settings carefully before welding.
5. Always announce "welding" in a strong voice before striking the arc.
6. Welding must stop ½ hour before end of work call.
7. Make sure metal spatter does not contact flammable materials or scenery.
8. Turn off gas at end of work sessions.



9. Welding jacket, welding face shield and welding gloves required.

Oxy-acetylene Torch

1. See Oxy-acetylene Torch guidelines for specific instructions.
2. All staff and students shall receive training in the use of this tool and shall pass a written exam before using.

Compressor

1. Turn off at wall switch at end of each work day.
2. Drain airline once a month.
3. Caution, motor may be hot.

Portable Pancake Compressor

1. Turn off at wall switch at end of each work day.
2. Drain air tank daily.
3. Caution, motor may be hot.

Extension Cords and Air Hose

1. Inspect hose and cords for wear and loose connections before each use.
2. Never defeat grounding device.
3. Never coil around arm, coil in hand only.

Rigging System

1. Do not use rigging system without proper training.
2. Do not operate the rigging system without a clear view of stage or a spotter.
3. Be sure the load is properly balanced. Always release brake carefully and slowly.
4. Do not leave a line set without locking the brake.
5. Attachment and removal of scenery to and from battens should be done under supervision of an authorized member of the shop staff.
6. Changing weights should only occur when no one is underneath at the locking rail. Someone should be designated to ensure others don't wander in this area while loading is underway.
7. Use proper calls, loudly in full voice, to the stage and theater while moving a line set and loading weight.
 - a. Ask for clarification on appropriate calls from your supervisor before proceeding.
 - b. "Line Set # Moving In/Out"- wait for a "thank you" response from other personnel for confirmation.
 - c. Repeat instructions given to load weight to ensure proper communication. Use appropriate calls such as "Adding weight to line set #, is the rail clear?"- Wait for confirmation that rail is clear before continuing. When finishing loading weight announce "# bricks added to linset #, completed."
8. Do not move a line set without warning and persons who may be working on the grid.
9. If you are unsure about any aspect of the rigging system, ask your supervisor.

Safety Data Sheets (SDS)

1. Consult SDS sheet for unknown substances, properties, required protective equipment, and safe handling.
2. SDS Sheets are available for all scene shop items, materials, chemicals, etc. These are located in the scene shop.
3. All containers are to be labeled with Product Name and applicable warning.