



KANSAS CITY WOODWORKERS' GUILD

SHOP RULES & GUIDELINES

1. The Director of Assets is responsible for overall coordination of the Shop and has the authority to stop activities not believed to be consistent with these rules and guidelines set forth by the Board.
2. A Shop Foreman must be present to use the Shop.
3. Anyone operating equipment must have passed the Guild Safety Test, signed the Waiver of Liability, and be a member in good standing.
4. Guild posted Safety Rules will be followed.
5. The user is responsible for damage due to negligence.
6. Before entering the Shop, everyone must complete the Sign-in Book, including the purpose of use.
7. Name tag must be worn while in the Shop.
8. Before leaving the Shop, it must be returned to as-found or better condition. This includes, but not limited to, sweeping floor, removing dust from tools, emptying cabinets beneath stationary tools, emptying dust collectors when bags are at the fill mark, closing/locking tool cabinets, and unplugging power equipment. Tables and chairs should also be returned to their designated location.
9. No personal property, except for Guild sponsored projects, may be left on the premises without prior approval from the Shop Foreman. Materials left in shop must be labeled with owner's name, contact information, date, and planned date to remove and stored in the area designated by the Shop Foreman. The Guild will not be responsible for any personal property. Scrap materials from personal projects shall not be left in the shop.
10. Reclaimed material will not be used on Guild equipment without prior approval of the Shop Foreman. The following guidelines will be used at the Shop Foreman's discretion to determine whether reclaimed material can be used:
 - Finish should be removed.
 - Visual inspection of boards to assess foreign objects.
 - Metal detector to confirm whether nails, screws, or other metal objects are present.
11. Guild sponsored events will have priority over personal projects and shop time.
12. No Guild owned property may be removed from the Shop without prior approval from Director of Assets.
13. Shop users agree to follow Shop Foreman's directives, including leaving the Shop if not following the shop rules.
14. Repeated violation of these rules is cause for losing Shop privileges and other Membership privileges pending Leadership Committee decision.



Band Saw Safety Rules

The Band Saw has a thin vertical blade that allows cutting curves, resawing, and large depth cuts on thick material. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Band Saw. Failure to follow the safety rules will result in a loss of shop privileges.

Band Saw Safety Rules from Mark Adams:

1. Follow the 3" rule from the blade; always keep fingers 3" from the blade.
2. Check the blade tension and tracking before starting.
3. Don't cut stock that is not flat on the bottom without a jig.
4. Keep a balanced stance at the band saw.
5. Never clear small pieces while the blade is moving.
6. Never use your thumbs to push toward the blade.
7. Never back out of a curve cut while the machine is running.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the saw should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the band saw with a safe attitude!
2. The teeth of the band saw blade should point down toward the table.
3. The blade should be 1/32" from the rear roller bearing behind the blade.

4. The blade alignment tracking should be at the center of the wheels.
5. Make sure that the upper and lower wheel guard doors are closed when running.
6. Keep the blade guard & guide only 1/4" above your stock.
7. Keep bystanders away from the right hand area of the saw. Broken blades have a tendency to fly out to the right.
8. Always keep your fingers and hands away from the path of the blade.
9. To control the stock, use push sticks, feather boards, or any other safety device when cutting small or short stock.
10. Use a "V" block when cutting cylindrical stock.
11. Cut at a moderate feed rate into the blade. Do not force a cut.
12. Cut relief cuts prior to cutting long or tight curves. The relief cuts will free the blade of the tension of the tight curve and the wood will fall away. The blade size will dictate the radius of the cut.
13. If you need to back out of a cut, shut the machine off, after blade stops, and then back out.
14. If a blade breaks, shut the machine off and stand clear until everything stops.
15. If the work is too large for one person to handle, get help holding the stock.
16. When cutting with the table at an angle, clamp a block to the table to prevent your stock from slipping off the table.
17. Always disconnect the power before changing the blade or performing any other maintenance operation.
18. Turn off the band saw and wait until comes to a complete stop. Never stick an object into the blade to stop the machine quicker. Let it stop on its own.



Bench Grinder Safety Rules

A bench grinder is a machine used to drive an abrasive wheel or wheels. Depending on the grade of the grinding wheel, it may be used for sharpening cutting tools. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Bench Grinder. Failure to follow the safety rules will result in a loss of shop privileges.

Bench Grinder Safety Rules:

1. Before working with a bench grinder, make sure the tool and its accessories are in the proper working order.
2. "Ring Test" grinding wheels before mounting. Suspend the wheel on a pencil held horizontally through the center of the hole. Tap the wheel lightly with a plastic screwdriver handle, in spots 45 degrees from vertical. If it produces a clear ringing tone it is in good condition. If it sounds dull, REPLACE it.
3. Inspect the wheels for a hairline crack before using. **DO NOT USE A CRACKED WHEEL.**
4. Make sure the wheel housing guards are in place.
5. New grinding wheels should be balanced by dressing and truing to eliminate vibration.
6. Used wheels should be trued and dressed when worn out of round, or the surface face is clogged or worn smooth. This provides a clean sharp grinding surface and rebalancing of the wheel. Dress the wheel on the face only. Dressing the side of the wheel would cause it to become too thin for safe use.
7. Don't operate a grinder unless it is securely mounted to the workbench.
8. Do not heavy grind on the side of the wheel.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the grinder should be kept clear of people, debris that impair traction or footing to avoid slips and falls.

2. Safety glasses with side shields and a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop & on the bench grinder with a safe attitude!
2. Adjustments need to be made when the grinder is unplugged & stopped. Adjust tool rests 1/8" from the wheels and slightly below center and spark or shatter guards (at the top of the wheel housing guards) 1/16" away from the wheels. Re-adjust these as the wheels wear down to a smaller diameter.
3. Stand to one side of the wheel when turning on power. Allow the grinding wheel to run at full operating speed for one minute. DO NOT use a wheel that vibrates.
4. Bring the object into contact with the grinding wheel slowly and smoothly avoiding impact or bumping motions.
5. Move the object being ground, back and forth across the face of the wheel only, as this prevents "ruts" or grooves from forming.
6. Never grind small stock. Do not attempt to grind or sharpen anything that cannot be adequately supported by the tool rest. Use clamping pliers when grinding parts that cannot be held easily by hand.
7. Do not touch the ground portion of the workpiece until cooled.
8. Keep bystanders a safe distance away from the work area. Anyone entering the work area must wear his/her PPE.
9. Turn off grinder and wait until it comes to a complete stop. Never stick an object into the wheel to stop the grinder quicker. Let it stop on its own.



Combination Belt/Disc & Edge Belt Sanders

These sanders are for surface or edge sanding of nonmetallic materials only. Both machines may be used for many types of rough, end grain sanding and simple shaping. The combination belt/disc sander is configured with a sanding disc and belt and some may be individual units. The Edge belt sander will typically have only a belt but may oscillate vertically and have one or more worktables attached. The safety concepts presented are the same for any size machine.

Start with a Risk Assessment to ensure a safe work area:

1. Always wear safety glasses with side shields or safety goggles while operating this machine.
2. A sanding disc or belt will cut very quickly, failure to anticipate this may cause injury to the finger and hands.
3. Precautions should be taken for loose hair, clothing, jewelry and other items so that they are NOT caught in the machine.
4. Sanding on wood or plastic will cause heat buildup due to friction and may cause the wood to burn rapidly.
5. All power driven sanders can cause serious abrasive skin burns with incorrect use or from accidental contact with the abrasive belt.
6. A dust collector may be connected to the unit, but a filtering face piece mask is also recommended for those with respiratory issues.
7. Check the integrity of the sanding belt tracking of the machine as well as the integrity of the disc. Any ripped belts or discs should be reported to the shop foreman.
8. Do not wear gloves while operating the sander.
9. Allow the machine to reach full speed before feeding material. Similarly, it takes time for the disc or belt to stop moving. There is no way to stop the machine on short notice.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the Combination Belt/Disc Sander or Edge Belt Sander with a safe attitude!
2. Ensure that the gap between the sander's table and the moving disc or belt is kept as small as possible.
3. The distance between your fingertips and the moving disc or belt shall be no closer than 3".
4. Do not sand pieces of material that are too small to be safely supported.
5. Always hold the work firmly when sanding.
6. Use the backstop, fence, table or other supports when sanding.
7. Always hold the work firmly on the downward rotation side of the table when sanding with the disc.
8. Avoid awkward hand positions where a sudden slip could cause a hand to move into the sanding belt or disc.
9. Do not sand with the work piece unsupported. Support the work piece with the backstop or table.
10. Always remove scrap pieces and other objects from the table, backstop or belt before turning the machine on.
11. Do not push hard on the sanding media. The sander performs best and safest when it is allowed to remove material at the rate for which it was designed.
12. Never make belt adjustments while the sander is on.
13. Always turn the machine off and disconnect the power cord before installing or removing belts or discs or when making repairs.
14. Never leave the machine work area when the machine is running or before the machine has come to a complete stop.
15. Shut off power, clean the sander and work area before leaving the area.



Drill Press

Safety Rules

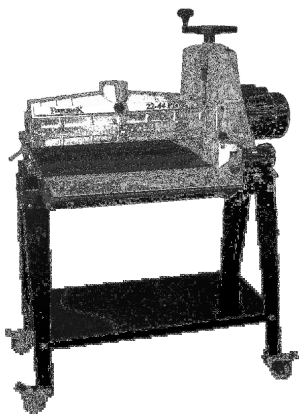
The drill press comes in a floor or bench-mounted model. It has a motor driven head that has a chuck that accepts bits or cutters. It also has an adjustable table on which the work is mounted. It is operated by pulling a rotary lever which lowers the drill bit into the material. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Drill Press. Failure to follow the safety rules will result in a loss of shop privileges.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the drill press should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.
5. Do not wear gloves or anything that would allow a hand, fingers or clothing to be wrapped around the revolving bit.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the drill press with a safe attitude!
2. Make all drill press adjustments with the power shut off.
3. Keep all guards and covers on the machine when it is on and running.
4. Make sure the size of the bit is equal to or less than the capacity of the drill press.
5. Do not exceed the recommended speeds for the type and size of drill bit being used or composition of the stock being drilled.
6. Center punch the drill-hole location into the stock.
7. Insert bit into drill chuck and tighten with the chuck key. Remove chuck key from the drill chuck before starting the drill press.
8. Use a clamp or vise to securely fasten the stock to the drill press table. Never attempt to hand-hold stock while drilling.
9. Drill into cylindrical stock using a "V" block.
10. Long stock should be drilled with the excess to the left of the operator. If the stock rotates it will hit the post, not the operator.
11. Support the underside of the stock to be drilled with a backer board secured to the drill press table.
12. Never start the machine without the table clear of everything except the stock you are drilling.
13. Keep hands and fingers at least 3" from rotating drill bits.
14. When drilling deep holes, frequently raise the drill bit from the hole to remove cuttings and cool the bit.
15. When you begin to break through the underneath side of the stock, ease up on the feed as to not tear the wood from the underneath side.
16. If a drill bit binds, turn off the drill press and carefully turn drill chuck backwards by hand to free the drill bit.
17. Never reach around or under a rotating drill bit or grab the chuck to stop a drill press. This can result in hand puncture or other serious injury.
18. Turn the drill press off before looking up or walking away from the machine.
19. Never stop the rotation of the drill chuck, spindle, or stock rotating on bit with your hands or fingers.
20. Don't touch the drill bit and shavings since they are hot immediately after drilling.
21. Always clean the drill press table and work area upon completion of the drilling task. Do not use your hands or blow the drill shavings, use a bench brush.



Drum Thickness Sander

The Drum Thickness Sander, Also Known as a “Drum” Sander is similar to a thickness planer in that it removes material from the surface of a board. However, instead of using a series of rotating knives and shaving the material, it uses sandpaper attached to a drum to abrade the workpiece. The sanding drum spins above the workpiece that feeds through on a conveyor belt. A special feature found on some drum sanders is an open side that allows workpieces wider than the drum to pass through. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Drum Sander. Failure to follow the safety rules will result in a loss of shop privileges.

Drum Sander Safety Rules:

1. Always wear safety glasses with side shields or safety goggles while operating this machine.
2. Precautions should be taken for loose hair, clothing, jewelry or other items that can be caught in the belt or drum.
3. Do not wear gloves while operating the sander.
4. The sanding drum can cause serious abrasive burns when skin is accidentally caught in between the sanding drum and conveyor belt.
5. Do not sand pieces too small to be safely supported through the machine. The minimum material length is 6 inches.
6. A dust collector must be connected to the unit for dust control and on prior to starting the sander. A filtering face piece mask is also recommended for those with respiratory issues.
7. The guard over the drum must be completely down while the machine is in operation.
8. Check the integrity and tracking of the conveyor belt on the machine before turning it on. Any ripped belts or burn marks should be reported to the shop foreman.
9. Stand clear of the drum while sanding to avoid kickback of the material.
10. Avoid feeding more than one piece through the sander at once. There is often a temptation to “gang-feed” material that may result in kickback.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the Drum Sander with a safe attitude!
2. Clear the surrounding floor area to make sure you have enough in-feed and out-feed clearance to maneuver the material.
3. Start the machine, and holding the material onto the in-feed side, push it until the drum catches and begins moving the material. At that time, remove your hands and let the material pass through the machine.
4. A proper cut is achieved by balancing the depth of cut with the feed rate, keeping in mind the qualities of the material being sanded. A soft wood can have a greater depth of cut and rate of feed than a hard wood.
5. Set the depth (with the sander and conveyor OFF) by lowering the drum until it contacts the material but you can still pull it free of the drum. Do not attempt to remove large quantities of material in a single pass.
6. Start the conveyor at 50% of its full speed, adjusting up or down in small increments to improve the quality of the sanding.



Hollow Chisel Mortiser Safety Rules

The Hollow Chisel Mortiser is a specialized woodworking machine used to cut square or rectangular holes in a piece of lumber, such as a mortise in a mortise and tenon joint. Similar to a drill press in many respects, it combines the cutting of a four-sided chisel with the action of a drill bit in the center. The bit clears out most of the material to be removed, and the chisel ensures the edges are straight and clean. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Hollow Chisel Mortiser. Failure to follow the safety rules will result in a loss of shop privileges.

Hollow Chisel Mortiser Safety Rules:

1. Make all machine adjustments or maintenance with the machine unplugged from the power source.
2. Remove adjusting keys and wrenches from the machine before turning it on.
3. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards correctly.
4. Make sure the mortiser is firmly secured to the table or bench before use.
5. Check for alignment, binding and breakage of moving parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
6. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and be safer.
7. Maintain tools with care. Keep chisel and drill bits sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
8. Turn the bit around one complete revolution by hand before the power is turned on.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the mortiser should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, tie back long hair, and roll sleeves up past the elbows.
4. Do not wear gloves or anything that would allow a hand, fingers or clothing to be wrapped around the revolving bit.
5. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the hollow chisel mortiser with a safe attitude!
2. The auger bit should extend 1/16" - 1/8" beyond the end of the chisel for clearance.
3. Set depth stop high enough so the chisel will not strike the table at the bottom of the cutting stroke.
4. Make sure the workpiece is securely attached or clamped to the table. Never use your hand to hold the workpiece.
5. Keep your hands at least 3" away from the chisel while operating the machine.
6. Maintain a balanced stance at all times so that you do not fall or lean against the chisel and drill bits or other moving parts.
7. Do not overreach or use excessive force to perform any machine operation.
8. Don't cut a three sided hole. Cut the first hole, skip past material about 2/3 size of hole, and drill again. Continue in this manner until mortise length is achieved. Cleanup the mortise by removing material between holes, Failure to follow this procedure will result in a ruined chisel and bit.



Hollow Chisel Mortiser Safety Rules

The Hollow Chisel Mortiser is a specialized woodworking machine used to cut square or rectangular holes in a piece of lumber, such as a mortise in a mortise and tenon joint. Similar to a drill press in many respects, it combines the cutting of a four-sided chisel with the action of a drill bit in the center. The bit clears out most of the material to be removed, and the chisel ensures the edges are straight and clean. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Hollow Chisel Mortiser. Failure to follow the safety rules will result in a loss of shop privileges.

Hollow Chisel Mortiser Safety Rules:

1. Make all machine adjustments or maintenance with the machine unplugged from the power source.
2. Remove adjusting keys and wrenches from the machine before turning it on.
3. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards correctly.
4. Make sure the mortiser is firmly secured to the table or bench before use.
5. Check for alignment, binding and breakage of moving parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
6. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and be safer.
7. Maintain tools with care. Keep chisel and drill bits sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
8. Turn the bit around one complete revolution by hand before the power is turned on.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the mortiser should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, tie back long hair, and roll sleeves up past the elbows.
4. Do not wear gloves or anything that would allow a hand, fingers or clothing to be wrapped around the revolving bit.
5. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the hollow chisel mortiser with a safe attitude!
2. The auger bit should extend 1/16" - 1/8" beyond the end of the chisel for clearance.
3. Set depth stop high enough so the chisel will not strike the table at the bottom of the cutting stroke.
4. Make sure the workpiece is securely attached or clamped to the table. Never use your hand to hold the workpiece.
5. Keep your hands at least 3" away from the chisel while operating the machine.
6. Maintain a balanced stance at all times so that you do not fall or lean against the chisel and drill bits or other moving parts.
7. Do not overreach or use excessive force to perform any machine operation.
8. Don't cut a three sided hole. Cut the first hole, skip past material about 2/3 size of hole, and drill again. Continue in this manner until mortise length is achieved. Cleanup the mortise by removing material between holes, Failure to follow this procedure will result in a ruined chisel and bit.



Jointer Safety Rules

Jointers are machines used to prepare stock for making joints and smoothing the edge or surface of stock. They have high speed rotating knives that remove material as it is pushed past the rotating jointer knives. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Jointer. Failure to follow the safety rules will result in a loss of shop privileges.

Jointer Safety Rules from Mark Adams:

1. Keep cuts to less than 1/16".
2. Do not joint stock less than 12" in length.
3. Do not joint stock narrower than 3" without a push stick.
4. Do not surface stock wider than the blades are long.
5. Do not joint stock thinner than 5/8".
6. Never put your hands over the cutter area.
7. Always feed toward the out feed table.
8. Never operate the jointer without guards.
9. Use the left hand to hold down; use the right hand for pushing stock.
10. Never use your thumb as a push stick.
11. Walk with the board through the cut on long boards.
3. Move the fence to different positions over the cutter head to avoid dulling the blades.
4. Avoid cuts deeper than 1/8" per pass; 1/16" or less is the ideal depth of cut.
5. Avoid tip-in. Never apply pressure to stock directly over the cutter head. This may result in tipping the board or your fingers into the cutter.
6. Position your stance to allow you to walk through with the board. Never stand flat-footed facing the fence.
7. Never pass your hands directly over the cutter head. When face jointing, use a push block in between your hand and the stock.
8. Always make sure that the exposed cutter head behind the fence is guarded, especially when you are jointing stock near the guard side of the cutter head.
9. Do not back your work out of the cut; keep going in the direction of the out feed table. Lifting your work off the blades is OK as long as you do it with good control. Do not let go or drop the board back into the blades.
10. If you are jointing long or heavy stock, make sure that you have help or use a stand to support the work.
11. Although the fence can be tilted, jointing of the stock at an angle could be difficult and cumbersome to hold. The use of push sticks and hold down devices is highly recommended. If possible, consider another machine for this operation if it cannot be done safely.
12. Before you walk away from the jointer make sure the machine is off & the blade has stopped.
13. Always run wood through the jointer with the grain in the same direction that you are cutting and never across the grain. Always examine the condition of the stock and evaluate the grain direction, warp, twist, burl, swirl, kink, and cup.
14. When straightening a cupped piece of stock, the feet should be down to the table with the concave side down & the humped side up. It may take several passes to get a smooth surface. Then you will need to straighten other side of the stock with the thickness planer.

Start with a Risk Assessment to ensure a safe work area:

1. A perimeter around the jointer should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the jointer with a safe attitude!
2. While machine is off and stopped, make all adjustments, see that all adjusting handles are tight & locked, and check fence for square.



Lathe Safety Rules

Lathes are great to work with, you can create so many things, table legs, pens, bowls, just to name a few. The wood stock rotates between the headstock and tailstock to permit carving. Rotating speeds range from 200 to 4,000 rpm. A block of wood that is not secured can fly off with enough force to cause serious injury to the operator or someone standing nearby.

To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG lathes. Failure to follow the safety rules will result in a loss of shop privileges.

Lathe Safety Rules:

1. Select stock carefully and inspect it closely before undertaking a project. Avoid using wood with knots or splits.
2. Rotate the stock by hand to be sure that it clears the tool rest.
3. Before turning on the power to the lathe, make sure the lathe is in the lowest possible speed. Mechanical speed controls can only be changed while running, and if the work is an out of balance piece of wood you may not have a chance to lower speed.
4. Never adjust the position of the tool rest while the lathe is running.
5. Position the tool rest a little below center of the workpiece and no further than 1/8 inch from the work as workpiece diameter decreases.
6. Confirm the stock is secure before starting. Stand to the side of the machine on the initial start-up to ensure that the stock is secured.
7. Never leave the lathe running unattended.
8. Disconnect the power source before making repairs.
9. Safety glasses with side shields and a face shield must be worn.

Start with a Risk Assessment to ensure a safe work area:

1. A minimum of a two foot perimeter in the back and front of the lathe should be kept clear of people, due to the rotating shaft.
2. Remove loose fitting clothing, jewelry, and tie back long hair and dangling objects that may catch in rotating parts.
3. Give the work your undivided attention.
4. Keep the tools off the lathe bed. Keep the woodturning tools on the same side as the operator, so there is no need to reach over the lathe to get tools or have them fall.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the lathe with a safe attitude!
2. Rough out your workpiece on a bandsaw before mounting it on the lathe.
3. Snug the tailstock center against the work and lock it. Lubricate the tailstock center if it is not a ball-bearing center.
4. Hold turning chisels securely on the toolrest, and hold the tool firmly. Always use a slower speed when starting until the workpiece is cylindrical. This helps avoid the possibility of an unbalanced piece jumping out of the lathe and striking the operator.
5. Keep the woodturning tools sharp. A dull chisel requires that you apply excessive feed pressure.
6. Make contact with the work cautiously, and then slowly progress the cut more aggressively.
7. Never use your fingers to check the work for roundness while the lathe is running, especially during roughing operations. Stop the lathe to check the progress, or rest the blade of the tool lightly against the work as it turns.
8. Clean up wood shavings and sawdust often. Sawdust can create a slipping hazard.
9. Remove the tool rest before sanding or polishing on the lathe.
10. When sanding, remember that the spinning stock will cause the sand paper to heat up from the friction of sanding. So sand on a low speed, on the back side of the stock on the down stroke.



Miter Saw

Safety Rules

The Miter Saw is a power tool used to make a quick, accurate crosscuts, miters or bevels. These saws cut at a set miter angle. Some also can cut at both miter and a beveled angle. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Miter Saw. Failure to follow the safety rules will result in a loss of shop privileges.

Power Miter Saw Safety Rules:

1. Never alter a guard or use the tool with a guard missing. Be sure all guards are in place and working properly before each use.
2. Never force a blade onto an arbor or alter the size of an arbor. If your blade does not have the proper size and shape arbor hole for the arbor, do not use it!
3. Make sure the arbor and blade are both clean. Buildup on the surface of the arbor and blade will increase excessive friction.
4. Use sharp blades. Damaged or dull blades could throw teeth, causing a serious injury.
5. When installing or changing a blade, make sure the blade has adequate set (blade set provides clearance between the sides of the blade and the workpiece, thus minimizing the probability of binding). Match the direction of the arrow on the blade with the direction of the arrow on the tool casting to be sure of proper installation. The blade teeth at the bottom of the blade point down and toward the fence.
6. Be sure the arbor nut is tight to prevent slipping or loosening of the blade.
7. Set the saw securely on a flat, level surface.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the miter saw should be kept clear of people, debris that impair traction or footing to avoid slips and falls.

2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop & on the miter saw with a safe attitude!
2. Concentrate on what you are doing and be aware of kickback.
3. Always place the workpiece securely on the table & against the fence when making cuts.
4. Support long workpieces at the same height as the saw table.
5. Use clamps to secure the workpiece to the table and avoid injuries.
6. Never make freehand cuts. Holding the workpiece by hand is unstable and may lead to loss of control.
7. Never cut small pieces that would require you to put fingers within 3" of the cutting blade without a clamping device.
8. Never reach under the saw blade or perform "cross handed" operation.
9. When you start your saw, allow the blade to reach full speed before cutting; do not force the blade and always start the cut gently.
10. When using the **Sliding Compound Miter Saw** as in the KCWG shop, remember to pull the blade out and start saw and push down into the stock and towards fence to make the cut.
11. Don't raise the blade from the workpiece until the blade has come to a complete stop.
12. Never try to remove or clamp the workpiece to the saw while the blade is rotating.
13. Lock the miter saw in the down position when transporting.



Router

Safety Rules

The widespread use of routers is based on their ability to perform an extensive range of smooth finishing and decorative cuts. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Routers. Failure to follow the safety rules will result in a loss of shop privileges.

Router Safety Rules:

1. Always choose the correct tool and the proper accessory for your job.
2. Sharp bits must be handled with care. Never use dull or damaged bits that can snap during use. Dull bits tend to overload, causing possibility of bit breakage.
3. Never use bits that have a cutting diameter greater than the opening in the router base.
4. When changing a bit make sure that the router is unplugged from the power source.
5. Make certain that the bit shaft is engaged in the collet at least $\frac{1}{2}$ inch.
6. Never bottom out the router bit, as this will damage the collet.
7. Always use the wrenches provided with the tool to make adjustments. Using the correct wrench enables a more secure grip on the tool and may prevent slipping.
8. If using a bit left in the machine, after changing the bit, or making any adjustments, make sure the collet nut and any other adjustment devices are securely tightened. Loose adjustment devices can unexpectedly shift causing loss of control; loose rotating components may be violently thrown.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the router should be kept clear of people, debris that impair traction or footing to avoid slips.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Use the appropriate mask or respirator in dusty work conditions.

4. Remove loose fitting clothing, jewelry, tie back long hair, and do not wear gloves.
5. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop & on the router with a safe attitude!
2. Always inspect the router bit before each use and NEVER use a bit if the carbide is cracked or appears damaged in any way.
3. Make sure router is turned off before plugging it in.
4. Make sure the work surface is free from nails, knots, and other foreign objects.
5. Place the workpiece securely in a vise or other recommended clamping device. Holding the workpiece by hand is unstable and may lead to loss of control.
6. After turning on the router, wait until it has reached full speed before starting the cut.
7. Never start the tool when the bit is touching the workpiece. The bit may grab the workpiece and cause loss of control. Follow the tool manufacturer's procedure for setting the depth of cut. Tighten adjustment locks.
8. For maximum control, hold the router firmly with both hands. The reaction torque of the motor can cause the tool to twist.
9. Always feed the cut against the direction of rotation.
10. Feeding the tool in the wrong direction causes the cutting edge of the bit to climb out of the workpiece and pull the tool toward the operator.
11. Never touch the bit during or immediately after use. The bit is too hot to be touched with bare hands.
12. Never lay the tool down until the motor and bit have come to a complete standstill. The spinning bit can grab a surface and pull the tool out of your control.
13. Return the bit to the tool cabinet after use. Never throw bits into the bottom of a drawer. The bits should be stored in a router bit holder. This will keep them sharp.



Router Table Safety Rules

Routers mounted in a table are used to create decorative surfaces on a workpiece. Most of us own a router and can have a more versatile machine if we procure a router table. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Router Table. Failure to follow the safety rules will result in a loss of shop privileges.

Router Table Safety Rules:

1. Before working with the router mounted to a table make sure all guards are in place and working properly.
2. Always choose the correct tool and the proper accessory for your job.
3. Always keep bits sharp and clean of rust and pitch to avoid excessive friction.
4. When changing a bit, make sure that the machine is unplugged.
5. Always use the wrenches provided with the tool to make adjustments.
6. After changing the bit or making any adjustments, make sure the collet nut is securely tightened and that the unused portion of the bit is covered by the guard before tool use.
7. Before plugging in the router, make sure it is turned off.
8. Make the adjustments to the table and fence before turning on the router.
9. When making a freehand cut, use a starting pin and a bearing on the bit.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the machines should be kept clear of people, debris that impair traction or footing to avoid slipping.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Use the appropriate mask or respirator in dusty work conditions.
4. Remove loose fitting clothing, jewelry, tie back long hair, and do not wear gloves.
5. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop & on the router table with a safe attitude!
2. Follow the 3" rule; keep your hands and fingers 3" from the router bit.
3. Use a push block to keep your hands protected from the revolving bit.
4. Clamp a block of wood to the fence over the top of the bit to be the bit guard
5. Shaping narrow materials can be hazardous; always use feather boards or push blocks.
6. Maintain proper adjustments for infeed and outfeed fences.
7. Adjust the fence halves so the cutter opening is more than is required to clear the bit and lock the fence into position.
8. Take time to examine your workpiece and make sure that all necessary precautions have been taken before cutting. Always make sure the work surface is free from nails, knots, and other foreign objects.
9. Do not shape chipboard, panel board, or any stock that has paint or varnish on it.
10. Properly support long lengths of material. Use work supports or stands as needed.
11. Never feed the workpiece in the direction of cutting blade rotation. Otherwise, the cutter blade can grab and pull the workpiece.
12. Never trap the stock in between the fence and the bit.
13. Always use a miter gauge & clamp for "end shaping" to maintain safe control.
14. Always connect the dust collector to the exhaust port before use.
15. Keep the exhaust port pointed away from you. Don't reach into the exhaust chute to unclog chips. Stop the tool and unplug it from the power source. After making sure the bit has stopped, clear the chute with something other than your bare hand.
16. Never reach under the table while the tool is running.



Scroll Saw Safety Rules

A scroll saw is an electric saw useful for cutting intricate curves where a jigsaw or coping saw is not appropriate. It is somewhat similar to a band saw, but the bandsaw's blade is a continuous loop. Scroll saws use saw blades similar to those used by coping saws and operate through a quick reciprocating up and down motion. This is probably one of the safest tools we buy, but still there are a few cautionary steps we should take! To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Scroll Saw. Failure to follow the safety rules will result in a loss of shop privileges.

Scroll Saw Safety Rules:

1. Firmly secure your scroll saw to the tabletop, workbench, cabinet, or floor.
2. When making any adjustments, performing maintenance, or changing the blade, make sure the power is off and the cord is unplugged.
3. Make sure the blade is the proper type for the cut you are planning.
4. Insert the blade with the teeth pointing forward and down to the table.
5. Maintain the proper blade tension.
6. Never start the machine before clearing the table or everything but your workpiece.
7. Never start the machine until all handles are locked.
8. Never reach under the table while the machine is running.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the scroll saw should be kept clear of people, debris that impair traction or footing to avoid slipping.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.

3. Use the appropriate mask or respirator in dusty work conditions.
4. Remove loose fitting clothing, jewelry, and tie back long hair.
5. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop & on the scroll saw with a safe attitude!
2. Inspect your stock carefully.
3. Support a large workpiece to reduce blade breaking and pinching.
4. Always use the hold down device by lowering and adjusting the hold down foot so that it presses lightly on the workpiece, for each new operation.
5. Always keep your hands and fingers away from the blade; follow the 3" rule.
6. Never place your hands or fingers directly in line with the blade where you could cut them if you slipped.
7. Do not start the machine with the blade in contact to the workpiece.
8. Hold the work firmly against the table.
9. This is a variable speed scroll saw; use the proper speed for the job & type of stock you are cutting.
10. Make relief cuts before cutting long or sharp curves.
11. STOP the saw and wait until all motion has stopped before removing small scrap & cut off pieces away from blade and off the table.
12. Do not cut a workpiece that does not have a flat bottom that can rest on the table.
13. Do not cut a workpiece that is too small to safely be supported and held onto.
14. Never back out a bound blade from the kerf with the machine on; turn it off, then back out.
15. Use a "V" block to cut cylindrical stock.
16. When finished, release the blade tension to reduce stress on the blade.
17. Clean the table with a bench brush.



Table Saw

Safety Rules

Table saws are designed to rip, cross cut, bevel, and cut angles with precision. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Table Saw. Failure to follow the safety rules will result in a loss of shop privileges.

Top 10 Table Safety Rules from Mark Adams:

1. Follow the 3" rule from the blade; always keep fingers 3" from the blade.
2. Never free hand on the table saw.
3. Check alignment of the splitter, fence, and miter gauge.
4. Be aware of your position at the saw.
5. Always use your splitter and guard on through cuts.
6. Make adjustments when the machine is off.
7. Never clear small pieces while the blade is moving.
8. Do not over reach behind or over the blade unless the blade has stopped turning.
9. Never use the miter gauge and fence together while cross cutting without a stop block.
10. Keep the blade only 1/8" to 1/4" above the stock.

Start with a Risk Assessment to ensure a safe work area:

1. A two foot perimeter around the saw should be kept clear of people, debris and sawdust that impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection should be worn.
3. Secure loose fitting clothing, jewelry, and tie back long hair while operating a table saw.
4. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the table saw with a safe attitude!

2. Always disconnect the power before changing the blade or performing any other maintenance operation.
3. Make sure that the blade is turning free before you turn on the power: this is especially helpful after you make changes or adjustments.
4. Always loosen and tighten the wheel nuts before and after adjusting the blade. Be sure that the locking nut on the blade-tilting hand wheel is secure for angle cuts so the blade does not move.
5. Never operate a table saw with the throat insert removed. Use zero clearance inserts when appropriate.
6. The Biesemeyer Blade Guard must be used for all cross cut and rip operations, unless using the crosscut sled (which has it's own guard). Adjust prior to cutting.
7. When cutting across the grain of the stock use a miter gauge or a crosscut sled.
8. When cutting with the crosscut sled, make sure the outfeed table guide slots are in alignment with the sled.
9. Use a stop block clamped to the rip fence when you crosscut multiple pieces to short lengths.
10. When ripping, use the kerf splitter.
11. When ripping, keep the area in back of the saw free of people in case of kickback.
12. When ripping long stock, make sure that you have help, use the outfeed table, or use a stand to support the work.
13. Use a push stick to rip stock that is 3" or less in width.
14. Stand comfortably, with your feet far enough apart for good balance.
15. Position your body to the left of the blade, so that it is NOT in line with the blade or kickback alley.
16. Make sure that the blade has stopped turning before you remove scrap pieces from the table or adjust for another operation.



Thickness Planer Safety Rules

The Thickness planer is similar to a jointer in that it removes material from the surface of a board. It can be distinguished from a jointer as the cutter head is mounted above the feed table, which is shorter and wider compared to a jointer. To avoid accidents, the following operational safety rules must be observed by everyone working on the KCWG Planer. Failure to follow the safety rules will result in a loss of shop privileges.

Planer Safety Rules from Mark Adams:

1. Follow the 3" rule for your hands & fingers at the opening of the infeed and outfeed tables.
2. Stand to the side of the machine to avoid kickback or shattering of the wood from the planer that can occur even with feed roller pressure.
3. Place boards on the bed of the machine so your fingers do not get pinched.
4. Do not wear gloves while operating the machine.
5. Only plane clear boards or boards with solid knots to avoid kickback.
6. The shortest board should be the distance between the infeed and outfeed roller, plus 2 inches (12" for the KCWG Planer).

Start with a Risk Assessment to ensure a safe work area:

1. A minimum of a two foot perimeter in the back and front of the planer should be kept clear of people, due to possible kickback that could be thrown out of the machine.
2. Safety glasses with side shields or a face shield must be worn. Hearing protection must be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.

Operational Safety Rules:

1. Approach your work in the KCWG Shop and on the planer with a safe attitude!
2. Always check the wood before planing for foreign material in the wood.
3. Unplug the machine to make any adjustments of the machine other than the depth of the cut and the rate of feed.
4. Depth of the cut should be set before each pass of feeding the stock into the machine.
5. Our thickness planer is dual speed and for best results, the slower the rate of feed, the smoother the cut.
6. Keep all guards and covers on the machine when running the machine.
7. Always connect the dust collector to the planer and use it.
8. A typical pass should remove no more than 1/8" of material for soft wood. 1/16" is the recommended rate per pass for hardwood.
9. When planing thin stock 3/8" or thinner, you must use a backer board.
10. Each complete revolution of the hand wheel moves the table 1/8". Only rotate the hand wheel 1/2 of a turn per pass for the 1/16" recommended removal.
11. Wood that is warped, cupped, twisted or bowed will cause inconsistent contact with the blades of the planer. Joint the concave surface first before running it through the planer.
12. When running short stock, always butt the ends of the boards against one another as they are fed into the planer.
13. If the board is thicker on one end than the other and jams in the machine, do not shut off the machine. Slowly crank open the height adjustment wheel until the board resumes feeding through the planer.
14. The planer is self feeding.