

WOOD SHOP SAFETY MANUAL

for the

SCHOOL OF ARCHITECTURE

Prepared by the

School of Architecture

and the

Department of Safety & Risk Management Services

UNIVERSITY OF SOUTHERN CALIFORNIA

WOOD SHOP RULES AND REGULATIONS

The Schools of Architecture and Fine Arts have adopted the following rules and regulations regarding the use of the Workshop. These rules have been implemented for the safety and well being of all Workshop users. **Violations of these policies will result in the permanent loss of Workshop use privileges.**

The use of the Wood Shop is available only to students currently enrolled in the School of Architecture or the School of Fine Arts.

No one is to work in the Wood Shop alone.

All Wood Shop users must conduct themselves in a safe manner at all times.

Protective eyewear must be worn at all times.

Open toed shoes are not permitted in the shop.

No loose fitting clothing or loose hair to be worn while operating machines.

All safety guards must be kept in proper position while machines are being operated.

The blade guard on the table saw must be in place. The Shop Director is the only person authorized to remove the guard for special applications.

Do not leave equipment while it is running.

Students are permitted to use independently only those tools and equipment for which they have had operation instruction and with which they have had supervised experience.

Everyone is responsible to cleanup the equipment after each use.

The floor around any machine must be clear of all liquids, sawdust, and wood scraps.

Smoking and eating are not permitted in the Wood Shop.

All materials and supplies must be provided by the user.

GENERAL SAFETY PRECAUTIONS

In addition to the Wood Shop rules and regulations stated previously in this manual, it is necessary for every individual who works in the wood Shop to adhere to all safety precautions listed below:

Ask for assistance with all "special set-ups". The Shop Director must check each "special set-up" before the power is turned on.

Before turning any machine on please note the location of all power supply switches. Do not try to stop the machine with your hands or body.

Be sure that all machines have effective and properly working guards that are always in place.

Do not leave the machine while it is running and never lean on a piece of machinery.

Keep your work area clean.

Get help to lift heavy objects

Keep floors and aisles clean and clear at all times to avoid tripping or other accidents.

Return all tools and equipment to their proper storage location after each use.

Be sure to use each tool for the purpose for which it was meant and put tools away when not in use.

Care must be taken to see that all lumber is free from nails, sand, paint, or loose knots before being machined.

Everyone has equal responsibility for taking care of the tools and equipment in the shop. Everyone has a part in maintaining a safe and well-kept shop. Any student finding a dangerous condition in the shop must notify the Shop Director immediately. All injuries must be reported to the Shop Director at once no matter how minor the injury may be. Get first aid immediately for any injury.

WORKSHOP EQUIPMENT BREAKDOWN

Table Saw

Radial Arm Saw

Band Saw

Jig Saw

Panel Saw

Chop Saw

Planer

Sander/Grinder

Lathe

Shears

Drill Press

TABLE SAW



Machine Use

A table saw can be a dangerous piece of equipment if it is not handled and maintained properly. The table saw gets its name from the circular saw blade that is positioned in the middle of a table. The work piece is brought into contact with the rotating blade. A properly maintained table saw is equipped with a guard over the blade at all times, a push stick, and a fence. A fence is a barrier that assists in guiding the material through the blade. The blade underneath the table should be guarded so the operator cannot accidentally contact the blade. The push stick is a piece of wood that is used in place of the operator's hands. It allows an operator to push the work piece into the blade without the blade getting close to his hands. It should be used when trying to cut a piece of wood 6" wide or less. The push stick should be placed on the material between the blade and the fence, closer to the blade than the fence.

Safety Precautions

The most frequent types of accidents that occur from the use of the table saw are cuts or abrasions and kickbacks. These can be minimized by using the proper guarding and safe work practices. Power saw operators often are injured when their hands slip off the stock while pushing it into the saw, or when holding their hands too close to the blade during the cutting operations. This type of injury can be avoided by using a push stick. A kickback occurs during a cutting operation when a part or the entire work piece is violently thrown back to the operator. Kickbacks can be stopped by ensuring that the material being cut remains firmly against the fence while being pushed through the blade, keeping the saw blade sharp, and keeping the saw blade guard, splitter, and anti-kickback device in place. Eye protection must always be worn when working with the table saw.

All users must first attend a table saw orientation before being cleared to use table saw.

Important Notes

Important safety guidelines to follow while operating a table saw are:

1. Never remove the guard from over the blade. The blade should be just high enough to cut the piece -- no more than 1/8 inch above the stock. The blade should never be exposed.
2. Ask the Shop Director if any special cuts need to be performed.
3. The work piece should be placed firmly next to the fence.
4. Your hand should never be in line with the blade or near the blade while the saw is running.
5. The operator must never allow his hands to come closer to the saw blade than 4 inches.
6. Always check the set-up carefully on the table saw before turning on the power. Wait until the blade stops completely before adjusting fence and measuring the distance from the blade.
7. When ripping stock, the fence should never be closer than 1/2 inch to the blade.
8. Always use a push stick to guide a piece through the saw when the fence is closer than 6 inches to the blade.
9. Nothing should be on the saw table while the saw is in operation.
10. The blade should always be turned off and lowered below the table when you are done.
12. Never adjust the saw while it is running.
13. AVOID KICKBACKS - Never leave stock between the blade and the fence. Be sure to push material all the way past the blade after it is cut.
14. Wait for saw blade to come to a complete stop before walking away.
15. Wear eye protection.
16. Keep loose clothing and hair away from blade.
17. Clean the machine surface and the floor when finished.

Optimal Performance:

* Verify that the blade is sharp and in good shape.

* Raise blade to a height no more than 1/8" above top of stock.

* Ask for assistance for complex and/or advanced cuts.

RADIAL ARM SAW



Machine Use

The radial arm saw is a circular saw in which the saw is actively pulled into the work piece. This saw has a guard on either side of the blade. There is also a guard covering the front part of the blade. The radial arm saw is pulled forward by the operator. The saw should be returned to its neutral position after cut is made. The lower half of the saw should be adjusted to the work piece thickness and remain in contact with the work piece being cut for the full working range. This type of saw has a fence that restricts the movement of the work piece.

Safety Precautions

The most common accidents that occur with a radial arm saw are cuts or abrasions and kickback. If all the guards are in place and the work piece is restrained by the fence, no accidents should occur. No operator should ever have cause to bring his hand in close to the blade of this saw. Kickback is a dangerous reaction of the saw to notches or unevenness in the work piece.

Important Notes

When you are operating a radial arm saw:

1. Never remove any guards.
2. Never allow your hands to come closer than 2 inches from the blade.
3. Do not hold your material near the cutting path of the blade.
4. Always use the fence to restrain the work piece while the saw is being pulled forward.
5. Pull the saw through the work piece at a slow, constant, even speed.

6. Allow the saw to return to its resting position.
7. Always ask for assistance if you are unsure about anything.
8. Wear eye protection.
9. Keep loose clothing and hair away from blade.
10. Clean the machine and the floor when finished.

BAND SAW



Machine Use

A band saw has a long, thin blade that travels in a constant path around wheels, and pulleys. The only portion of the blade exposed is the area from the table to the top of the work piece. The wheels, pulleys, belts, and all non-working parts of the blade are encased within the machine. The upper guide of a band saw should be set at a height just above the work piece.

Safety Precautions	The most frequent type of accident associated with the band saw is cuts or abrasions. Carelessness and recklessness are the major reasons behind band saw accidents. The operator should never hold his hand directly in front of the band saw blade when cutting small work pieces because he may accidentally push his hand into the blade. If the guards are in place and the upper guide is in the proper position, the operator's hands should remain clear of all moving parts of the saw. Band saw blades should periodically be examined for cracks and broken teeth. The operator should contact the Shop Director if there are any questions concerning the blade. If the band saw blade breaks or comes off, you should step away immediately, shut off power, and call the Shop Director.
Important Notes	<p>When using a band saw:</p> <ol style="list-style-type: none">1. Keep your hands out of the path of the blade. Never allow your fingers to come closer than 2 inches to the blade.2. GO SLOW! Do not force material through the blade.3. Make short cuts before long ones to avoid unnecessary backing out.4. The guide should be no more than a 1/4 inch above the stock.5. When it is necessary to back out stock from a long cut you should stop the machine, wait for the blade to come to a complete stop and then back out the work piece.6. Remove jammed pieces of stock only when machine is stopped.7. Wear eye protection.8. Keep loose clothing and hair away from blade.9. Clean the machine and the floor when finished.

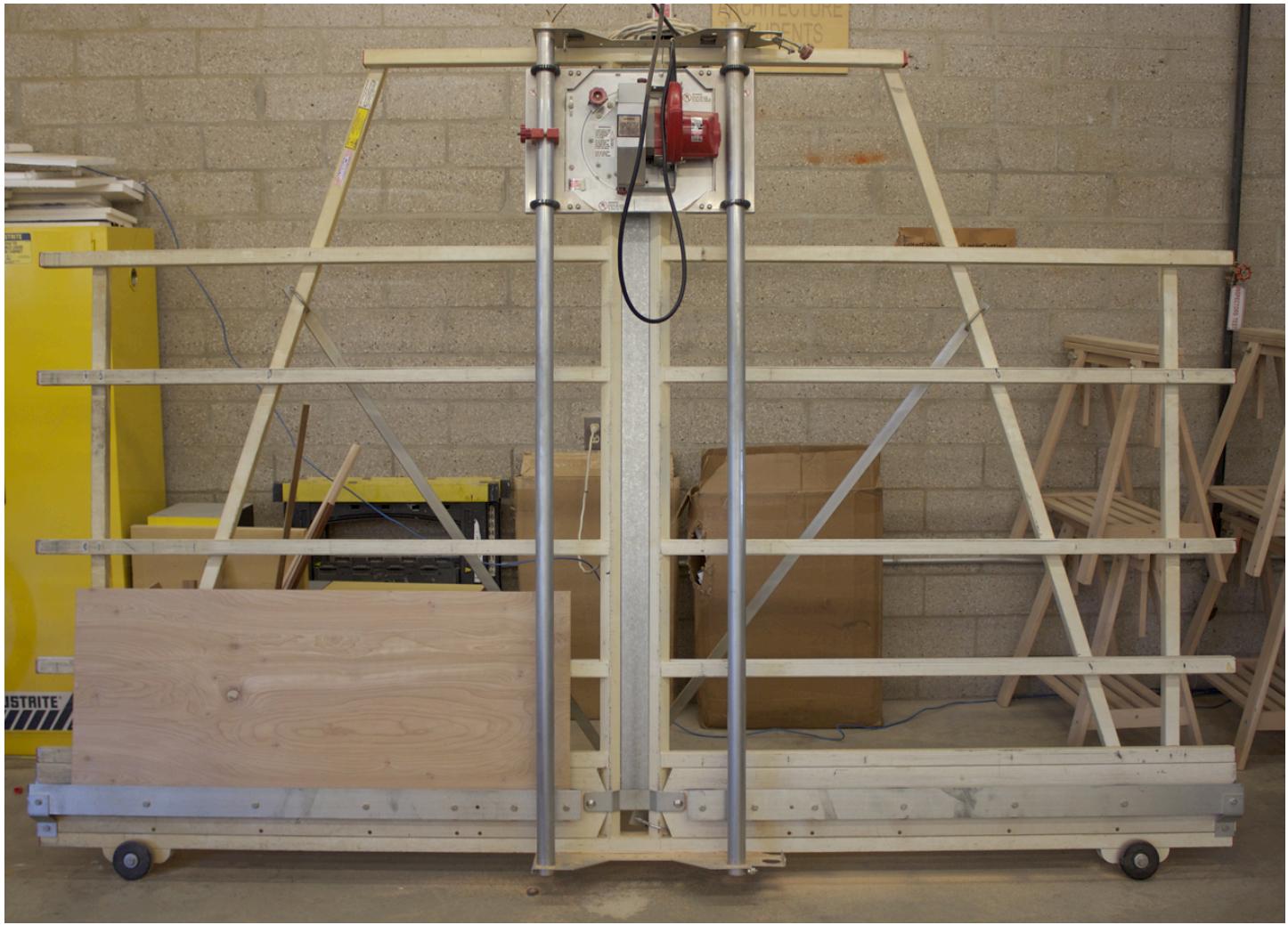
JIG SAW



Machine Use	A jig saw is a hand held cutting tool with a reciprocating blade. Safe operating procedure requires the blade to be properly attached and secure. The threshold rest (slotted foot) should be positioned directly on the work piece. The guards must cover all moving parts and induce the operator to keep his hands a safe distance from the blade.
Safety Precautions	For any saw, cuts and abrasions should be the major concern of the operator. The operators hand should remain the greatest distance away from the blade as is possible. The material should be secured to the worktable before operating the tool. Because of the size of the jig saw it may seem innocuous, but it must be remembered that whenever you are working with a piece of equipment that can cut through wood and metal it can very easily cut through a hand.
Important Notes	Additional precautions when working with a jig saw are: <ol style="list-style-type: none">1. Turn cuts should be made slowly.2. Do not use sharp or small radius turns if you are working with a wide blade.3. Clearance cuts should be planned to eliminate the need to back out of curves.4. There should be enough clearance around the saw to allow proper maneuvering of the work piece.5. Never allow your fingers to come closer than 2 inches from the blade.6. Check with the Shop Director to determine the maximum work piece thickness that can be safely cut on each jigsaw.

7. Wear eye protection.
8. Keep loose clothing and hair away from blade.
9. Clean the machine and the floor when finished.

PANEL SAW



Machine Use The panel saw is used for cutting sheets of plywood into smaller parts.

Important Notes Important safety guidelines to follow while operating a panel saw are:

1. Wood only, or ask permission to cut alternative material and change blade as necessary.

2. Wear eye protection.
3. Remove jammed pieces of stock only when machine is stopped.
4. Clean the machine and the floor when finished.

Optimal Performance:

- * Tape cutting edge to prevent splintering of exit face of plywood.

CHOP SAW



Machine use The compound miter saw (chop saw) is a circular saw in which the saw is pulled down into the work piece, cutting in a chopping motion. This saw has a guard on either side of the blade. There is also a guard covering the front part of the blade. The saw should be returned to its neutral position after cut is made. This type of saw has a fence type guard that restricts the movement of the work piece.

Safety Precautions The most common accidents that occur with a chop arm saw are cuts or abrasions and kickbacks. If all the guards are in place and the work piece is restrained by the fence, no accidents should occur. No operator should ever have cause to bring his hand in close to the blade of this saw. Kickback is a dangerous reaction of the saw to notches or unevenness in the work piece.

Important Notes

Important safety guidelines to follow while operating a chop saw are:

1. Wear eye protection.
2. Do not place hands closer than 2 inches from the blade.
3. Do not attempt to cut short stock on the chop saw
4. Cut in a slow steady motion. Do not “chop” at the material. It is not an axe.
5. Bring saw to a complete stop before walking away.
6. Clean the machine and the floor when finished.

Optimal Performance:

- * The chop saw is for cross cutting.
- * Adjust saw angle for either 45 degrees or 90 degrees (fixed) or other angles as required.
- * Hold stock firmly against the table.

PLANER



Machine use Planers are used to reduce the thickness or your material. The cutting tool on this equipment is held stationary while the work piece is moved across it. The machine is equipped with a horizontal cutter head composed of knives or blades. The cutter head rotates at a rapid speed

Safety

Precautions Inspect the wood carefully before starting to work. Remove all foreign objects from the wood before passing material through the blades

Important Notes

When using the planer

1. The planer can only be operated with assistance of the woodshop staff.
2. Always make cuts with the grain.
3. The guards should always be kept in place.
4. Always re-check the depth of cut before turning on the power.
5. Wear eye protection.

6. Keep loose clothing and hair away from blade.
7. Clean the machine and the floor when finished.

SANDER/GRINDER/BUFFER





Machine Use	Sanders, grinders, and buffers shape the work piece by bringing it into contact with a rotating abrasive wheel or disk. Polishing, honing and wire brushing also are classed as grinding operations. Sanders contain drums, disks, or belts that are composed of abrasive materials. Sanders and grinders are equipped with a work rest. A properly adjusted rest will provide the minimum clearance between the belt and the work piece. The rest acts as a guide for the work piece. It also is to secure support for the work. Sander/grinders/buffers have a guard affixed over all moving parts to prevent hands from getting caught in the machine. Shields are attached to the sander/grinder as added protection against sparking and dust. When using the buffer, a heavy coat of compound should be applied to the buffing wheel. The work should be kept in motion across the face of the wheel, buffering flat surfaces from side to side. Using firm pressure to press the material against the wheel will get the best results.
Safety Precautions	The two most common injuries associated with any sander/grinder/buffer are eye irritation and finger shaving. Eye irritation is the direct result of all the dust that is produced by the machine. Eye protection must be worn whenever working in the shop. There should also be a dust collection bag to prevent the excessive dust from getting into the air. The shield on the sander/grinder help contain the dust, but it cannot be your only protection. Because of the high speeds with which it takes to shape or smooth a work piece, it is very possible that the machine could do the same thing to a finger. An operator should not allow his fingers to get close to the rotating disk.
Important Notes	<p>When using a sander/grinder/buffer:</p> <ol style="list-style-type: none">1. Inspect abrasive belts and wheels before using them. Contact the Shop Director if you find a belt with a tear, fray, or any excessive wear.

2. When sanding on the sanding disk, be sure the sanding paper is securely fastened.
3. Always buff on the bottom portion of the wheel.
4. The type of job you are doing determines the amount of pressure to be applied in pressing the material against the grinding wheel.
5. Small or irregular shaped work pieces should not be held in your hand while sanding. They should be held by a jig or other holding device.
6. When using the buffer, you should point the sharp edges of your work downward.
7. When using a disc sander, make sure to hold your work against the downward motion side.
8. The tool rest should remain 1/8" away from the face of the wheel.
9. When sanding short pieces of stock on the belt sander, you should use the backstop.
10. Stop the machine when adjusting tool rest, shields, wheels or belts.
11. No Metals, without prior approval.
(metal sparks and flakes can start a fire in the sawdust)
12. Remove or fasten all loose articles of clothing.
13. Remove all jewelry such as watches, rings, and necklaces.
14. Wear eye protection, do NOT wear gloves.
15. Remove jammed pieces of stock only when machine is stopped.
16. Bring sanding pad to a complete stop before walking away.
17. Clean the machine and the floor when finished.

Optimal Performance:

- * The sander is NOT a shaping tool, it is a finishing tool.
- * Use a machine square to check verify angle of sander. Adjust as necessary.

LATHE



Machine Use	A lathe shapes a piece of wood by rotating that material into a stationary cutting tool. The work piece must be securely clamped into the turning device. The tool must also be securely positioned in what is called a chuck or guide bar, so it will not be thrown towards the operator. The tool rest should be adjusted so that it is 1/8 inch from the largest work piece diameter. The headstock and tailstock centers must be fastened securely to the material being turned, and oiled or waxed.
Safety Precautions	The best protection for an operator to have when using a lathe is to wear goggles and to have all guards in place. The operator should carefully inspect all parts for any defects so they can be corrected before operation. Work pieces containing checks, splits, cracks, or knots must not be used. The operator must give constant attention to the work piece being turned in order to discard any material likely to break. He or she must carefully place the work piece in the machine and feed the cutting tool slowly into the work piece.
Important Notes	<p>Users must receive instruction from shop director prior to use.</p> <p>When working with a lathe:</p> <ol style="list-style-type: none">1. Power should be off when adjusting tools. Only the speed may be changed while the lathe is running.2. Never feel the edge of the work piece while the lathe is running.3. Never leave chuck wrench in chuck.

4. Stop lathe before cleaning or taking measurement.
5. Never try to stop a spinning chuck with your hands.
7. When spindle is turning, do not start roughing cuts from either end.
8. Do not handle chips with your bare hands.
9. Be sure there is proper clearance for rotating work pieces.
10. Always use the lowest speed possible for roughing out the work piece.
11. Do not use the lathe without supervision.
12. Wood ONLY.
13. Remove or fasten all loose articles of clothing.
14. Remove all jewelry such as watches, rings, and necklaces.
15. Wear eye protection, do NOT wear gloves.
16. Clean the machine and the floor when finished.

Optimal Performance:

- * On the band saw or table saw, pre-shape your stock to be octagonal, mark the exact center of each end of your stock.
- * Fasten each end securely to the lathe.
- * Sharpen all chisels prior to starting
- * Angle of chisel to stock should be +/- 45 degrees.
- * Start with large chisel, hold firmly and shape slowly, removing only a little bit of material at a time.
- * Continue to shape with finer chisels, and later sandpaper.

SHEARS



Machine Use	Shears are designed to cut a work piece cleanly and thoroughly with the use of sharp knives. The shears can be operated on either mechanical power or through the use of foot and hand power. The knives work in a horizontal manner under normal operating conditions. The work piece is brought into the shearing knives and the piece is cut along the cutting line or at the designated spot. A guard or barrier is positioned between the work piece and the knives. The guard or barrier will rise to the thickness of the material. The guard must be positioned at an angle with the table to allow the cutting line to be visible to the operator.
Safety Precautions	Accidents occur when the operator's hands get too close to the sharp knives of the shears. The shears are provided with a guard that prevents the hands of the operator from entering the zone traveled by the knives while they are in motion. This guard may be a fixed barrier, set just above the table, or a self-adjusting barrier with a limit just above the table. The guard may not be removed or adjusted to a height higher than the work piece. A strip of heavy metal positioned in front of the knives may also be used as a guard. Partial enclosure guards are provided to prevent the operator from reaching around or behind the guard and into the point of operation. Chains, barriers or other means of guarding shall be provided to prevent entry to the rear of the shears during operation.
Important Notes	When operating shears: <ol style="list-style-type: none">1. Never remove or alter any guards2. Do not allow any open space between the guard and the work piece3. Never bring your hands close to the blades

4. Be sure you can always see the cutting line on the work piece
5. Never reach around or behind the shears while the machine is in operation
6. Make sure there are no obstructions when cutting
7. Keep shear table clear of excess material
8. Be sure of footing when operating shears by foot pressure

DRILL PRESS



Machine Use	A drill press is used to cut a round hole into a work piece. Drilling machines are equipped with rotating spindles, handles, and chucks that carry pointed or fluted cutting tools. Operations performed with drilling machines include counter-sinking, reaming, tapping, facing, spot facing and routing. Drill presses use bits of different sizes clamped to the spindle through the use of a chuck. Guards are used to prevent operators from reaching into the areas where there are moving belts, gears, and pulleys. Clamps and vises are used to hold small work pieces in place.
Safety Precautions	Accidents occur while using a drill press because of inattentiveness, improper personal protection, and faulty equipment. Operators should remain alert and aware whenever using heavy equipment. Eye protection is necessary when working on drill presses. Dust and chips can easily damage your eyes if you are not properly protected. Drill press bits should be checked frequently for cracks because if the bit breaks it can fly out and hit the operator. The chuck key should be removed from the chuck before turning on the power to prevent the chuck key from being thrown out at a terrific speed.
Important Notes	<p>When operating a drill press:</p> <ol style="list-style-type: none">1. Never hold the work piece with your hands. Always clamp it to the table.2. Run drill only at a proper speed; forcing drill too fast may result in drill bit breakage and personal injury.3. Changing the speed of drill press should be a one-person operation.4. If the work piece should slip from the clamp, never attempt to stop it with your hands, stop the machine and make adjustments.5. If the drill stops in the work, shut off the motor and free the drill by hand.6. When drilling deep holes, use interrupted feed to break up chip; back drill bit out of the hole to clear sawdust buildup.7. Ease up on feed pressure when breaking through work piece.8. Do not handle chips with your bare hands.9. Remove or fasten all loose articles of clothing.10. Remove all jewelry such as watches, rings, and necklaces.11. Wear eye protection, do NOT wear gloves.12. Clamp stock to the tabletop.13. Verify that you have the proper drill bit for the material.14. Adjust speed of drill press for material used. <p>Optimal Performance:</p> <p>* Adjust drilling angle as required.</p> <p>* Pre-drill (pilot hole) for increased accuracy.</p>

GENERAL SAFETY

Electrical Safety

Guarding of Equipment

Lifting and Handling

Emergency Guidelines

Earthquake Procedures

Emergency Contacts

ELECTRICAL SAFETY

Electricity is a necessary part of any workshop. It is taken for granted as an energy source, but there are hazards that accompany electricity. Failure to ensure that safe design considerations, work practices, procedures, servicing, and maintenance operations are established often results in bodily harm, property damage, or both. Some simple precautions can reduce or eliminate the possibility of electrical hazards.

In particular, water increases the possibility of shock hazards in the shop. When working with electrical equipment, you should make every effort to prevent water from coming into contact with the electrical outlet or wiring. The electrical equipment and machinery should be properly grounded at all times. The most often used type of grounding is the third prong added to the equipment plug. This third prong acts to send the electricity directly to ground that gives it no chance to pass through a human body. Unfortunately, when the electrical cord or wire is cut, the grounding mechanism no longer works. The grounding conductor on all tools and equipment should be regularly checked for frays, cracks, and breaks. Improper or inadequate maintenance of tools, machinery and equipment can result in electrical hazards in the shop ranging from mild shocks to major electrical fires.

Each piece of heavy equipment has two shut-off switches. There is the stop switch on the machine itself within reach of the operator. There is also the main shut-off switch that is located on the wall away from the equipment. If an operator is in trouble or the stop switch is not working, the main shut-off should be used. Everyone should know where that main shut-off is located in the workshop.

Some basic electrical safety rules are:

1. Do not use electrical equipment if power cords are frayed or control switches are not in good working order.
2. Keep all equipment and hands dry while using electricity.
3. Do not try to repair equipment yourself. Contact the Shop Director for assistance.
4. Do not use electrical equipment around flammable liquids or gases.
5. No one except trained personnel may operate special electrical equipment.
6. Never try to bypass any safety device on electrical equipment.

GUARDING OF EQUIPMENT

All mechanical equipment should be adequately furnished with guards that prevent access to electrical connections and moving parts. Careful design of guards is vital. An ineffective guard can be worse than none at all because it can give a false sense of security. Emergency shut-off devices may be needed in addition to electrical and mechanical guarding.

It is necessary to guard all machinery and equipment to eliminate hazards created by points of operation, in-going nip points, rotating parts, and flying chips and sparks. These hazards have been responsible for countless injuries and fatalities. The law clearly states that all points of operation and power transmission shall be guarded. There are many forms of guarding. Guarding means that workers are effectively prevented from coming into contact with the moving parts of machinery or equipment that could cause physical harm to the operator.

All belts, shafts, gears, and other moving parts must be fully enclosed or guarded, in a manner to present no hazard to the operator. These moving parts can easily catch a hand in its rotation creating a serious injury. Because most woodworking operations involve cutting, it is necessary, although often difficult, to provide guards at the point of operation. On most machines, the point-of-operation guard must be movable to accommodate the work piece, balanced so as not to impede the operations, and yet strong enough to provide protection to the operator. Whenever possible, blades and cutting edges need to be completely covered at the point of operation. It is too easy for a blade to cut an operator's hand.

Some basic rules to follow for guarding equipment are as follows:

1. Be sure that machines have effective and properly working guards.
2. Never remove a guard. It is there for your protection.
3. Bring the guard as close as possible to the blade. There should not be an opening between the work piece and the blade big enough to allow a hand to get in.
4. Contact the Shop Director if the guard is not in place or not working properly.

LIFTING AND HANDLING

Following proper lifting and handling techniques in the workshop can ensure productivity and health. The most common effect of neglect with regard to lifting and handling practices is back problems. Using proper lifting and handling techniques and common sense is the best form of prevention against back injuries. You can do something about preventing back pain by knowing and using proper lifting techniques.

The steps necessary for safe and proper lifting are:

1. Size up the load to make sure you can handle it safely.
2. If you think the load is too bulky or too heavy, ask someone to help you. Or try to break it up into smaller, more manageable loads.
3. Make sure you can carry the load in the direction you intend to go before attempting to move it. Also, make sure your path is clear of obstacles and that there are no hazards (spilled liquid on the floor) in your path.
4. Stand close to the load with feet far apart.
5. Squat down, bending at the hips and knees. This is the most important rule when lifting heavy objects.
6. As you grip the load, arch your lower back inward by pulling your shoulders back and sticking your chest out.
7. Tuck the chin, so that the neck and head continue the straight line of the back. Tucking the chin helps keep the spine straight.
8. Grip the object with the whole hand. Fingers alone have very little power. The whole hand is needed for safety.
9. Keep the arms and elbows tucked in. When the arms are far away from the body, they lose much of their power. Keeping your arms tucked in close to the body also keeps body weight centered.
10. Center your body over your feet. This provides a more powerful lift and also gives better balance.
11. Keep load close to your body. The closer it is to your body, the less pressure it exerts on your back.
12. When you set the load down, squat, bending at the hips and knees, keeping your lower back arched in.

EMERGENCY GUIDELINES

The most important work done in an emergency is the work done ahead of time. This includes procedures to follow, equipment condition, and knowledge of first aid.

The following procedures are to be followed immediately whenever alarms are sounded or the Fire Department, Security, or the Safety Office that an emergency exists notifies you.

1. Remain calm - do not panic.
2. Walk directly to the exit designated for the area you are in at the time the "signal" is given.
3. Close all doors while exiting if no other occupants are present.
4. Do not collect personal belongings before exiting. You will be advised when it is safe to return to the building to collect purses, packages, etc.
5. Walk - do not run! Do not use elevators.
6. Proceed down the stairwell as quickly as possible, but in an orderly manner. Do not rush or shove past others on the stairwell.
7. Do not talk during the exiting period in order to allow instructions to be given.

8. Do not smoke - all cigarettes, cigars, and pipes should be extinguished immediately.
9. Upon reaching the street level, clear the exit way immediately. Move to your designated assembly area.

EARTHQUAKE PROCEDURES

During the Earthquake:

1. Remain calm.
2. Get at least 15 feet away from windows and glass. Head for the center core of the building. Stand in a doorway, or crouch under a desk or table.
3. Find shelter under a sturdy desk or table. Kneel down and cover your head and eyes with arms.
4. Stay away from temporary walls or partitions and freestanding objects such as file cabinets, bookshelves, heavy pictures, heavy machinery, and large light fixtures.
5. Do not attempt to evacuate until the shaking ceases. Exit pathways may be blocked with debris and unsafe to use. Outside: stand away from buildings, trees, telephone and electric lines.

After the Earthquake:

1. Carefully inspect your area for injured people, damage and possibly further damage or danger. Provide first aid.
2. Do not turn on spark producing equipment. Use a flashlight to inspect in the dark.
3. Check for fires, gas leaks, fire hazards, hazardous materials spills or electrical hazards. If found, notify Security UPC 740-4321 or HSC 342-1000.
4. Evacuate building upon notification. The Safety Office and Physical Plant will conduct a safety inspection prior to your re-entry of the building.
5. Meet at designated assembly area, south of Watt Hall and take roll call.
6. Wear shoes.
7. Turn on radio and listen for instructions from public safety agencies.
8. Do not use the telephone except for emergency use.

EMERGENCY CONTACTS

EMERGENCY	911
USC DEPT. OF PUBLIC SAFETY	
Emergency:	213-740-4321
Non-Emergency:	213-740-6000
USC HEALTH SERVICES: 213-740-5344	
USC SAFETY OFFICE: 213-740-7310	

School of Architecture Numbers

WORKSHOP:	213-740-4578
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