

Model Shop Equipment

Band Saw

Before turning on band saw visually inspect the saw and surrounding area. Make sure there is nothing on the floor that would cause improper footing while operating the saw. Also make sure upper and lower access doors are closed, the blade is intact and adjust the blade guard to reduce the chances of an accident.

When operating the saw work **must** be laying flat on the table unless supported by a jig or fixture which is supported by the table.

Plan out cuts to avoid backing out of work, but if backing out of a cut is required turn off band saw first.

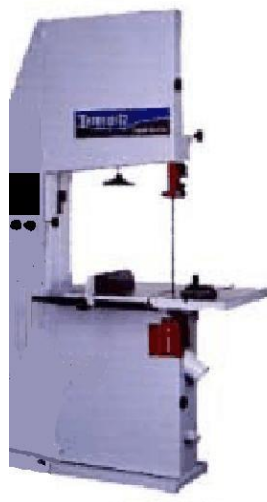
Make turns carefully and do not twist blade, relief cuts will help when cutting tight turns.

If blade breaks step back and turn off band saw, notify shop personnel so a new blade can be installed.

Turn band saw off when not in use.

Always assume that any machine you approach may be running. Most machines run very quietly or can coast without power for a long time. In a shop setting you may not hear the machine running and it may be hard to detect movement.

Never push your work piece with your hand/fingers directly in line with the blade. Materials can often split or crack resulting in sudden quick movement towards the blade resulting in an injury.



Disc Sander

Work piece **must** sit flat on the table or be secured to an angle plate, block, ect. which sits flat upon the table.

Sand only clean new wood be careful that any type of **metal fasteners** are not in your work piece. Avoid sanding work that has wet or excessive glue, this will clog up and reduce the life of the abrasive disc.

Always use a backer block or other techniques when sanding thin pieces on the disc sander.

Always sand on the side of the table that the disc is turning down into. Trying to sand while the disc is pushing the work piece up off of the table can cause injury to yourself or others around you.

Allow the machine to reach its **full operating speed** before feeding in the work.

Do not turn the sander on and off repeatedly while sanding. By doing so you cannot achieve a consistent feel for how much pressure is needed to sand your work accurately. This also is very hard on the equipment.

Never sand any material which could cause any type of spark. The fine dust created in a model shop can easily ignite. If there are any kind of fasteners (nails,screws,staples,ect.) be sure not to make contact with the sanding disc.

Always be aware of where your hands/fingers are in relationship to the opening in between the table and the disc.



Oscillating Spindle Sander

Remove sanding drum by loosening retaining bolt in a **counterclockwise** direction.

Select desired drum diameter and abrasive grit.

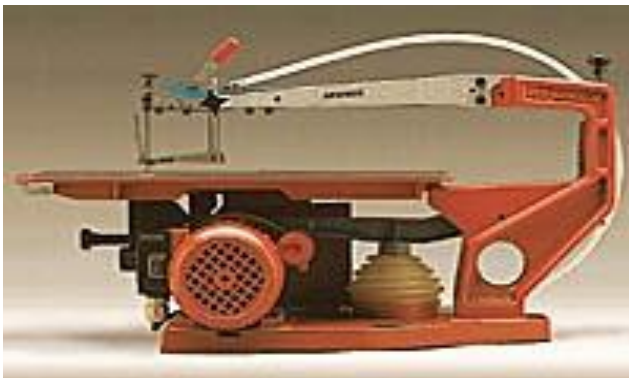
Install new drum and tighten retaining bolt by turning **clockwise**. Insert throat plate with appropriate opening.

Slowly feed work into drum from right to left to avoid sanding drum grabbing work.

Do not operate this machine with any type of loose clothing (sleeves) as well as long hair which is not tied up or safely pulled back.



Scroll Saw



De-tension blade before changing. When replacing blade teeth must be pointing down. After replacing blade adjust tension one full turn after contact is made with end of screw tension adjustment.

This saw is for intricate light cutting and therefore care must be exercised not to overload this saw with heavy cutting or excessively thick material.

Drill Press

Do not operate this machine with any type of loose clothing (sleeves) as well as long hair which is not tied up or safely pulled back.

Correct spindle speed is important generally the smaller the bit the faster the spindle speed.

Adjust table so there is clearance in between tool bit and work piece. There should be enough room to clear out any drill chips if needed.

Work should be **clamped down** or placed in a vise to avoid injury. This is always true for small or odd shaped pieces.

When drilling deep holes back bit out at intervals to clear chips and increase tool efficiency.

Use a backer board if needed **do not** drill into the table!



Sliding Compound Miter Saw

Make all necessary adjustments as needed be sure that all adjustments are **locked** before using saw.

Material to be cut **must** be held against the back fence.

Never hold material to be cut in such a manner that your hand is in line with the potential path of the blade.

When using the sliding feature on the sliding compound miter saw, pull the saw toward you before lowering the blade into the stock.

Small pieces of material cannot be cut safely unless they are clamped, mounted or held in place by another larger piece of material.



Panel Saw

Load material on panel saw in an **easy manner**. Excessive roughness or accidentally ramming a sheet of material into parts of the saw will damage the saw or cause a misalignment when cutting.

When loading material on saw make sure the **carriage** is out of the way. If carriage is not clear the material as it is loaded can damage the blade on impact.

Make all adjustments as required prior to your cutting operation. If further adjusting is needed **turn off** saw before correcting any setup issues. Be sure to **lock** everything down afterward.

Make sure material is **sitting properly** on rollers and back against the fence before starting cut.

When ready to cut turn saw on and always grab the saw by only by the **handle** when performing any cutting.



Wood Lathe

Do not operate this machine with any type of loose clothing (sleeves) as well as long hair which is not tied up or safely pulled back

Before turning on machine make sure work is mounted correctly in between centers or is fastened to a faceplate.

When mounting work using a faceplate **do not** over tighten mounting screws. This may strip the screw holes resulting in your work piece being thrown from the lathe.

Adjust tool rest to minimal distance from work piece.

Always rotate stock manually to check for clearance before applying power.

Turning tools should be held firmly with **both hands**. One hand on handle and one hand using the tool rest as a guide.



Table Saw

Table saws can cause injury very easily if precautions and safe practices are not followed.

One of the **main causes** of table saw injuries is failure to push material through and past the blade smoothly.

Always remember to keep hands out of the potential path of the blade. Also the blade may not be visible until the work is passed entirely through! **Keep fingers and especially thumbs clear of blade path.**

Never for any reason attempt to cut any material freehand.



Table Saw Cont.

RIPPING

When your work piece is longer than it is wide, guide it along the rip fence.

Be certain to keep the edge flat against the rip fence for the **entire** length of the cut.

NEVER push on the "waste" side of your stock, the material could crack or split unexpectedly and may result in an injury.



CROSS CUTTING

NEVER use the rip fence as a stop when cross cutting!

When cross cutting push your work piece all the way past the blade. Do not reach for small pieces around blade while saw is running.

Do not cut small pieces, use a miter gauge, sliding table, or other jig to guide your workpiece and keep your hands at a safe distance from blade.

DO NOT push on or handle the "waste" or off-cut piece until the saw has come to a complete stop.



Tablesaw (cont)

Before cutting any material **make sure** that the material to be cut is free from any foreign conductive materials (nails,screws,staples,water or high moisture content).

The table saw safety mechanism is triggered when the blade encounters any **conductive material or object**. This results in the saw measuring the new electric imbalance and in turn triggering the safety mechanism.

Make sure material you are going to cut is not excessively warped, this can bind up the blade while cutting.

When getting ready to operate the saw be sure to have at least one straight edge that will ride along the fence, the fence is correctly set and locked down, the blade does not extend up beyond the work excessively , the area which your are standing in is free from debris and table is clear off scraps.

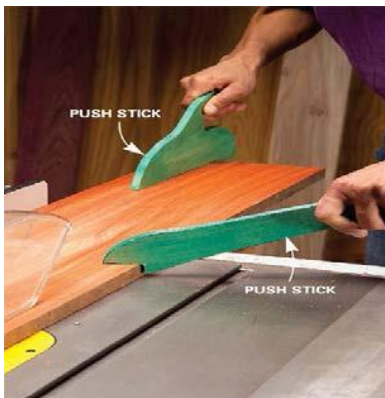
Do not let any part of your person come within 4” from running blade. **Many injuries** occur due to a slip happening while pushing work through the saw.

Three common situations where injuries occur are as follows:

- 1).You are pushing the material through the saw, as you get close to finishing the cut your hand slips off the work piece and because you are pushing your hand continues moving forward into the blade.
- 2). You are pushing the material through the saw palm down using your thumb as the pushing source and again as you get close to finishing the cut you get distracted and your thumb is injured.
- 3). This is similar to example number two except the material suddenly splits causing the work and your hand to jump forward possible contacting the blade.

Using a push stick can help reduce the chance of injury especially when making small cuts or using narrow strips of material. **Be aware** at all times that even with a push stick if it slips off and you are pushing too hard or to fast the momentum may carry your hand into the blade.

When you are finished, turn off the machine and remain until the blade has stopped. Clear the saw table and floor area of any scrap and discard into waste bins.



Spray Booth

Respirators with organic cartridge filters (not dust masks) **must be worn** by anyone using the spray booth. You will do irreversible damage to your lungs and nervous system through continuous inhalation spray paints and vapors.

Safety glasses must be worn in the spray booth area at all times. When mixing, pouring or spraying paint it is not uncommon for a accidental splash to occur.

The spray booth **must be on** when mixing or spraying to exhaust the harmful vapors within the spray booth. If there is any question as to the operation of the booth controls contact model shop personal.

Do not bring electric cords, power tools, or work lamps into the spray booth. These may produce sparks which will ignite flammable materials or vapors.

Mix and leave all substances with harmful vapors in spray booth until fully cured. This includes bondo (auto body fillers) and contact adhesives

Spray paint **must not** be stored in the spray booth. Any cans left in booth will be disposed of.

Do not test paint on walls.



First Aid

Please report **every** accident to the shop technician, manager or instructor immediately.

First aid supplies are available for students and faculty and are located within the model shop first aid cabinet.

Severe injury should be handled in these steps:

1. Assess the situation-make sure that it is safe for you to approach.
2. Call 911
3. **Contact campus safety -1444-** and ask them to escort the EMS personnel to the proper location.
4. Administer first aid...if you are trained to do so.

Recommend the student seek medical attention regardless of the injury.

Always file an incident report with campus safety to document the accident.

If the person does not want to wait for EMS; there are several hospitals in the vicinity:

- **Henry Ford Hospital**...Grand River- west of the Lodge Freeway.
- **Detroit Receiving Hospital**...Saint Antoine- south of Warren.
- **Harper Hospital**...John R. - south of Warren.
- **Beaumont Hospital** (Royal Oak)...13 Mile Rd. -west of Woodward.
- **Oakwood Hospital** (Dearborn)...Oakwood Ave. -Oakwood Ave. exit Westbound I-94 -go north on Oakwood.

Emergency rooms outside of tend to provide quicker service

CCS employees are advised **not to** transport anyone to the hospital due to possibilities of complications or other unforeseen events.

Blood Borne Pathogens should be seriously considered when administering first aid treatments...these include HIV viruses that cause AIDS, and Hepatitis B and C viruses.

- To **protect yourself**, Universal Precautions must be observed. Universal precautions mean treating all human blood/fluids as if it was infected, regardless of the person who is injured. It is essential to **wear gloves** when contact is possible. If a blood spill occurs, notify the shop manager, instructor or shop technician immediately.

Unless you have opted out upon registration, all CCS students have accident insurance. Students have 90 days after receiving treatment to turn in the bill with a claim form. Claim forms are available in the Office of Student Life. The insurance company will evaluate the bill and make a payment. The entire amount may not be covered by insurance and students will be responsible for the remaining balance. If students have additional health insurance, they can submit the outstanding bill to that company who may or may not pay the balance. All students with questions regarding insurance should be referred to Michael Coleman @ 313.664.7676 or mcoleman@ccscad.edu.