



Circular Saw

A **circular saw** is a rotary power-saw that uses a circular blade to cut wood in a long straight line. It is primarily used for cutting wood panels.

SAFETY

- **Shop Buddy:** You are not allowed to work alone while using the circular saw. A buddy is there to ensure your safety and to call for help if needed. Your buddy *does not have to be* trained on the tool, but if untrained, they are not allowed to use the equipment.
- **Eye Protection:** The circular saw can send sawdust, wood chips and other fragments flying – safety glasses protect your eyes from harmful material.
- **Close-Toed Shoes:** Tools, pieces of wood and other sharp objects can fall and close-toed shoes will protect your feet from cuts, bruises and even breaks.
- **Long Pants:** Long pants will protect your legs from cuts, bruises and splinters that might come from handling wood.
- **No Jewelry:** Rings, bracelets, dangling necklaces, watches, headphones and sweatshirt strings can all get caught in the spinning disc, which can drag you into the machine.
- **Long Hair Secured:** Like jewelry, long hair can also get entangled in the tool, and potentially drag you towards the circular saw.
- **No Food or Drink:** Sawdust and woodchips, in addition to the glues and paints

used on the wood, can get into your food or drink and be toxic. Residue from food or drink can also make the tools and machines messy.

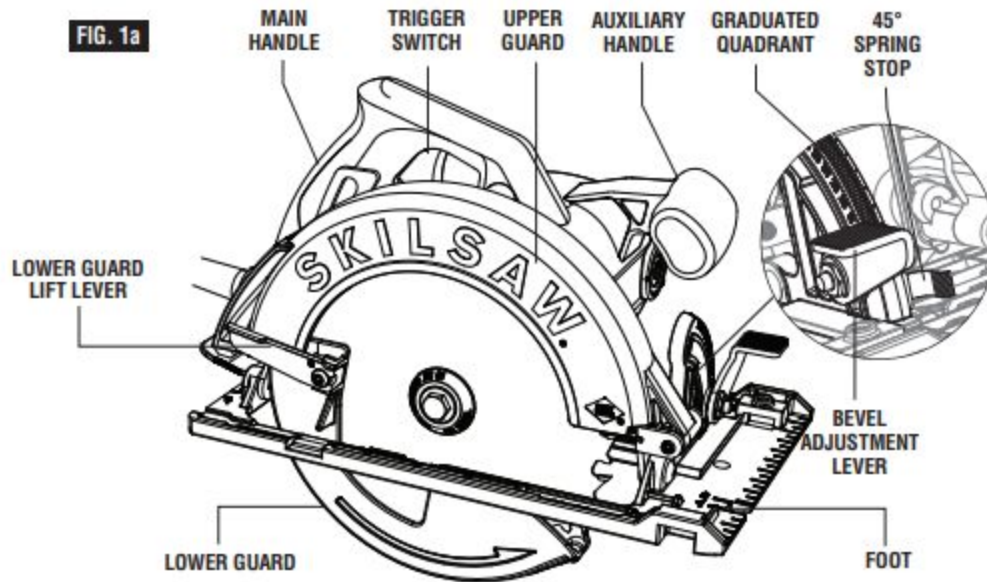
- **No Metal:** Using the circular saw on metal will destroy the tool and produce sparks, which can ignite sawdust, resulting in a fire or explosion.
- **Safe Bystanders:** If you are using these tools outside of the Woodshop, which likely means you are in the workspace, make sure everyone around you is safe. A good rule of thumb is that everyone within a 10' radius needs to be wearing PPE and needs to be aware of what's happening – as engaged as you would expect from someone in the Woodshop. Unless they are helping you, it is usually easiest to find a space farther from anyone else in the space.

For the Circular Saw specifically...

- **Watch the Cord:** The circular saw needs to be plugged in, but it is more than powerful enough to cut its own cord. Make sure the cord isn't draped across your piece, and make sure you won't get caught on it.
- **Check your Reach:** You can only cut as far as you can reach. If you try to make a cut that is too long, you will only ruin the piece – check your reach before you cut.

MACHINE ANATOMY

- **Main Handle:** The only safe place to hold the tool during operation.
- **Auxiliary Handle:** Can be held with a free hand for extra stability.
- **Trigger Switch:** Activates the blade when held down.
- **Upper Guard:** Protects the user from the blade during use.
- **Lower Guard:** Slides to cover the blade when not in use.
- **Foot:** Presses flat against wood to keep cuts straight and controlled.
- **Bevel Adjustment Lever:** Used to change the angle of the foot to cut bevels.
- **Graduated Quadrant:** Indicates the current bevel angle of the blade.



OPERATING THE MACHINE

1. Lay your piece flat and secure it with clamps. When you clamp your piece, there are two things to consider. First, the saw will protrude through the area you cut. A good way to accommodate this is to pull two tables apart to make a gap and lay the wood such that you will cut along the gap. The other thing to consider is that once you cut the piece, it will be in two pieces. Lay the piece such that neither half will fall once you cut. By making the cutting gap between tables small – a few inches is usually good – the tables will each support one part of the wood.
2. Plug the tool in somewhere where the cord won't be in the way. Check your reach to make sure you can do the whole cut without cutting yourself or the cord, and without losing control of the saw.
3. Place the saw at the start of the cut you want to make, so that the front of the foot is flat against the wood. Pressing gently down on the handle, to stabilize the tool, squeeze the trigger to start the blade. Let it get to speed before you start cutting, rather than starting the blade while it is engaged with the wood.
4. Move the blade forward. It is the force of the saw that cuts, not the force of your push, so you don't need to push forward very hard. Most of your push should be downward, pressing the foot into the wood, to keep the whole tool stable and the cut straight.
5. Move the saw all the way to the end of the cut. Once the wood is completely in half, release the trigger and lift the blade out of the cut. The lower guard will automatically slide into place to cover the blade, but it's good practice to shut off the blade before you lift the tool.

6. If you changed the foot angle with the bevel lever, set it back to zero. Most cuts use an angle of zero, so it's good shop etiquette to leave it in this position.

Troubleshooting

1. It can be difficult to place clamps on large pieces of wood. It often works well to place clamps diagonally in the corner where the wood and the table overlap.
2. The saw is only meant to cut one direction. If you try to cut backwards, the blunt side of the teeth will hit the wood, and you will make a very messy cut and ruin the blade in the process.