Orbital Sander

An **orbital sander** is a handheld version of the disc sander. It uses a spinning disc of sandpaper to remove material, usually from wood, but it can also work on foams and plastics.

**SAFETY**

For all powered hand tools...

- **Shop Buddy:** You are not allowed to work alone while using the orbital sander. 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 orbital sander 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 orbital sander.

• **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 orbital sander 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 Orbital Sander specifically...

• **Use the Handle:** Holding the orbital sander by the wrong part is an easy way to sand your fingers, and can also cause you to lose control of the sander.

• **Watch the Cord:** The orbital sander needs power from a wall, and it is very dangerous if the cord gets caught beneath the disc. This will destroy the sander and can cause it to shock the user or even catch fire.

### MACHINE ANATOMY

• **Rubberized Grip:** The correct part of the tool to hold.

• **Backing Pad:** The surface that holds the sandpaper.

• **Sanding Disc:** The rough surface that removes material.

• **Ventilation Openings:** Intake and release air to cool the motor.

• **Microfilter Dust Canister:** Absorbs some, but not all, of the sawdust.
OPERATING THE MACHINE

1. Make sure your piece is secured such that it won’t move around under the power of the disc.
   - For small pieces this means you want to clamp it to a stable table, including any of the tables in the main Foundry workspace.
   - For larger pieces, you can often kneel on the wood to keep it in place.
2. Hold the orbital sander by the top rubberized grip. This lets you have a thumb over the on/off switch, and the position will help you apply pressure.
3. Press the switch to turn on the disc. Because the tool is so light, you will feel the whole thing shake when it is on. Hold it tight enough to control it.

4. The disc will take a few seconds to get to full speed. Let it do so before you start sanding.

5. Press the disc flat against the material and hold it down.
   - Because the disc is spinning, it will feel like the tool is fighting you, or trying to move on its own. Don’t let it drag itself around.
   - The rim of the disc spins faster than the center. To sand evenly, move the orbital sander around so you don’t just wear down one spot.

Troubleshooting

1. Don’t turn the sander on when it is already touching your piece. The sandpaper will hold the piece and either kick your piece to the side or kick the tool to the side, depending on which is more secure.

2. Hold the disc flat to the piece. If it’s at an angle and you’re only touching the piece with the edge, the backing pad will wear down instead of the sanding disc. A worn out sanding disc is designed to be replaced, a worn out backing pad will make the tool useless.

3. Don’t sand the cord! If the cord is torn it will destroy the orbital sander, can shock the user, and can even start a fire due to the combination of sparks and sawdust.