METAL ABRASIVE TOOLS
VERSION 3.1
ABRASIVE MACHINES SMOOTH AND SHAPE YOUR WORKPIECE.

**MACHINE OPERATION**

**ABRASIVE MACHINES SMOOTH AND SHAPE YOUR WORKPIECE.**

- **METAL ABRASIVE TOOLS**
  - **VERSION 3.1**

**ALLOWED MATERIALS**
- Metal

**BANNED MATERIALS**
- Wood
- Plastic
- Any other materials

**SEE SHOP STAFF FIRST**

**MATERIALS**

- **SANDING BELT**
- **POWER SWITCH**
- **TABLE LOCK & TILT MECHANISM**
- **SANDING DISC**
- **TABLE LOCK & TILT MECHANISM**
- **POLISHING OR DEBURRING WHEEL**
- **WIRE WHEEL**
- **E-STOP**
ABRASIVE MACHINES SMOOTH AND SHAPE YOUR WORKPIECE.

**MACHINE OPERATION**

**POWER SWITCH**

**BUFFING WHEEL**

**MATERIALS**

- **ALLOWED MATERIALS**
  - Plastics

- **BANNED MATERIALS**
  - Everything that isn’t plastic
Always wear a face shield and safety glasses.

Always wear short sleeves, or rolled sleeves, pull back and tuck in long hair, remove jewelry and lanyards, etc. Do not wear gloves.

Never sand anything narrower than the gap between the belt (or disc) and the table. Never sand anything that isn’t rigid. The material must always stay in contact with the table.
**DISC AND BELT SANDER**

- The tables can be tilted in order to sand at an angle.
  - See Shop Staff before making table adjustments.
- Keep material flat on the table when working at an angle.
  - If you can’t do this, use a hand-held tool to shape your work.
- Move the material back and forth on the table, to avoid wearing the paper in one spot.

When working with small parts, they may become too hot to hold.

- Use locking pliers, like VISE-GRIPS to hold the parts.
- Occasionally dip the part in water to cool it off.
  - Prevent rust; dry any water left on the table.
- **Never** wear gloves.

**Disc sander guards**

Only sand on the portion of the disc that is moving down, towards the table.

- Never move the guards.
SAFETY FOR ABRASIVE WHEELS

+ Never wear gloves.
+ Always wear a full face shield.
+ Pieces must be held with both hands.
  ▶ Pieces under 4 inches must be held with locking pliers, like VISE-GRIPS.
+ Only work in the safe portion of the wheel.
+ Hold material so that it is angled down.
  ▶ Do not push material horizontally into the wheel.

BUFFING WHEEL

The buffing wheels are for putting a high polish on plastic.
+ The wheel on the right is coarse, and will remove more material; use this first.
+ The wheel on the left is finer, and will polish to a higher sheen.

Before polishing plastic, press the compound block against the rotating wheel to load it with compound.
+ Do not apply compound directly to the workpiece.

Note: Using the polishing wheel is messy. Coveralls and a hat are recommended.
+ Roll up your sleeves.

DEBURRING WHEEL (LEFT)

The deburring wheel is a soft wheel made for easing an edge; it is not for removing lots of material like a grinding wheel does. For heavy stock removal, use the disc/belt sander.

A sharp edge will destroy the deburring wheel; be aware of the contact angle between the material and wheel.

WIRE WHEEL (RIGHT)

The wire wheel is for smoothing a rough surface, like rust or welding slag.
USING THE DISC & BELT Sander
1. Turn on the power and wait for the sander to come up to speed.
2. Keep the material flat on the table.
   ▶ If you can't do this, use a hand-held tool to shape your work.
3. Slowly push the material into the sandpaper.
   ▶ Let the machine do the work for you; excessive force is not required.
   ▶ Do not sand on one spot; move the workpiece back and forth on the table.
4. Stay in control of material - use two hands.
   ▶ Small parts require locking pliers.
5. Turn off the power.

USING THE DEBURRING OR WIRE WHEEL
1. Turn on the power and wait for the machine to come up to speed.
2. Only work in the 3:00 to 6:00 position.
3. Slowly push the material into the wheel.
4. Avoid exposing an edge to the wheel.
   ▶ Keep work slightly pointed down.
5. Stay in control of material - use two hands.
   ▶ Small parts require locking pliers.
6. Turn off the power.

USING THE POLISHING WHEEL
1. Turn on the power and wait for the machine to come up to speed.
2. Only work in the 3:00 to 6:00 position.
3. Add compound to the wheel, using the block.
4. Slowly push the material into the wheel.
5. Avoid exposing an edge to the wheel.
   ▶ Keep material slightly pointed down.
6. Stay in control of material - use two hands.
   ▶ Small parts require locking pliers.
7. Turn off the power.

CLEANUP
1. Brush off the table and clean up the area.
2. Recycle scraps and put reusable pieces in the storage bin in the metal shop.

MAKE SURE THE WORKPIECE IS THICKER THAN THE GAP BETWEEN THE PAPER AND TABLE.

ALWAYS USE TWO HANDS AND STAY IN CONTROL OF THE MATERIAL.

KEEP MATERIAL POINTED SLIGHTLY DOWN. AVOID EXPOSING EDGES TO THE WHEEL.

WAIT FOR THE ABRASIVE MACHINES TO SPIN DOWN BEFORE WALKING AWAY.