Machine Shop Safety Procedure

There are common hazards associated with the use of machine shop equipment and tools. This page provides guidance on the use of personal protective equipment, machine guarding, and recommended safety policies.

Shop Safety Rules (Don't):

- Never work alone
- Never use machinery without the approval of the supervisor and completion of training
- Never use damages or malfunctioning equipment
- Never talk to or touch the machine operator
- Never allow student use of power machinery without the shop supervisor or a monitor present
- Never use a cell phone of personal music player
- Never work if you are tired
- Never use compressed air greater than 30 psi pressure for cleaning equipment. Never use compressed air to clean skin or clothing

Shop Safety Rules (Do's):

- Always complete general and shop-specific training before using machines or entering shop area
- Always understand your operation before you begin
- Always wear personal protective equipment (PPE), including glasses and/or face shield
- Always remove jewelry before working including rings, necklaces, bracelets, watches, etc.
- Always secure loose clothing, hair, jewelry, lanyards that carry identification badges or any items that could be caught in moving parts and could draw you into machinery. This includes, but is not limited to scarves, religious and non-religious headgear, long hair and beards.
- Always use all guards and shields. They must be secure prior to operating equipment
- Always check wood for screws or other embedded metal objects
- Always clear dust and debris before and after machine use
- Always keep aisles, exits, and access to emergency equipment clear
- Always immediately report all problems and/or concerns to shop supervisor

Safety Guidelines:

- If guards or safety mechanisms are present do not remove or disable them.
- Do not attempt to oil, clean, adjust, or repair any machine while it is running. Stop the machine and lock the power switch in the "OFF" position.
- Do not set up or operate machinery if you are not trained and familiar with that setup.
- Do not try to stop the machine with your hands or body
- Check tools and machines before use to assure they are safe to use
- Always see that work and cutting tools on any machine are clamped securely before starting to work.
- Only one person should operate a given machine and its switches
- Do not lean against a machine
- Concentrate on the work and do not talk unnecessarily while operating the machine
- Do not talk to others when they are operating a machine. A distraction may lead to an injury.
- Do not walk behind people operating a machine; you may bump them by accident or startle them and cause an accident.
- Always remove gloves before turning on or operating any machine. If material is rough or sharp and gloves must be worn, place or handle material with the machine turned off.
- Do not leave tools or work on the table of a machine even if the machine is not running. Tools or work may fall off and cause toe or foot injury.
- Use a brush to remove short, discontinuous types of chips--not hands, fingers, or rags. Never handle chips with your bare hands or fingers.
- Use a pair of pliers to remove chips, especially the long, stringy type
- Always use correct speeds and feeds. A broken tool becomes a hazard and can cause great personal injury.

Employees:

All employees who are responsible for the safe operations of the equipment in their shop must be fully trained and understand the operation and safety aspects of all machines.

Students: All students must be properly trained and understand the operation and safety aspects of all machines. Students shall never be left unattended while in the shop and/or working around machines.

Shop supervisors and/or lab coordinators are responsible for filling out the Machine Shop Inspection Form provided by EHS each semester and any issues must be fixed before students and/or employees can work on or around machines.

Machine Shop Inspection Form

Shop Supervisor: _____ **EID:** _____

Department: _____ **Date:** _____

Inspector(s): _____ **Building/Room #:** _____

The University requires documentation that all machine shops have their fixed powered machines inspected at least annually for employee-only shops and at least once a semester for student shops by the shop supervisor, faculty member, or department designee who is responsible for the daily operations. If you have multiple machines of the same type and manufacturer please include the serial number or UT ID number. Every piece of fixed equipment must be evaluated including those machines not specified.

PEDESTAL/BENCH GRINDER ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Tongue guard less than 1/4 inch												
3. Tool/work rest less than 1/8 inch												
4. Secured to floor or bench top												
5. Electrical cord in good working condition												
6. Anti-restart present												
7. E-stop button present, within reach												
8. Wheel evenly worn												

DRILL PRESS ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Chip shield in place												
3. Rotating and/or shaft guarded												
4. Spring loaded chuck key												
5. Nip points guarded												
6. Secured to floor, bench, or table												
7. Electrical cord in good working condition												
8. Anti-restart present												
9. E-stop button present, within reach												
10. Task light shielded												

RADIAL ARM SAW ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Self-adjusting blade guards in place												
3. Saw returns to home position												
4. Anti-restart present												
5. E-stop button present, within reach												
6. Effective ventilation												
7. Electrical cord in good working condition												
8. Anti-kickback fingers (ripping only)												

MILLING MACHINE ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Chip shield for point of operation												
3. Anti-restart present												
4. E-stop button present, within reach												
5. Electrical cord in good working condition												
6. Safe means of securing work piece												

LATHE WOOD ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Shield covering rotating piece												
3. Anti-restart present												
4. E-stop button present, within reach												
5. Electrical cord in good working condition												
6. Chuck shield installed												

LATHE METAL ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Chuck shield prevents contact with chuck												
3. Cross slide shield present												
4. Anti-restart present												
5. E-stop button present, within reach												
6. Electrical cord in good working condition												
7. Other rotating components guarded (lead screw, head stock)												
8. Spring loaded chuck wrench												

BAND SAW ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Extra blade recessed or shielded												
3. Doors to pulleys secured with tool or interlocked												
4. Adjustable blade guard left in down position when machine off												
5. Anti-restart present												
6. E-stop button present, within reach												
7. Electrical cord in good working condition												

SANDER ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Adjustable shield for unused portion of belt (above and below table)												
3. Anti-restart present												
4. E-stop button present, within reach												
5. Electrical cord in good working condition												
6. Cover for disk (combination sander)												
7. Rotating shafts covered												

TABLE SAW ☐Machine not present	Machine #1 Manufacturer			Machine #2 Manufacturer			Machine #3 Manufacturer			Machine #4 Manufacturer		
	Y	N	N/A	Y	N	N/A	Y	N	N/A	Y	N	N/A
1. Machine in service												
2. Effective blade guard (spreader, kick-back fingers)												
3. Anti-restart present												
4. E-stop button present, within reach												
5. Electrical cord in good working condition												

CHOP SAW / MITER SAW ☐Machine not present	**Machine #1** Manufacturer			**Machine #2** Manufacturer			**Machine #3** Manufacturer			**Machine #4** Manufacturer		
	Y	**N**	**N/A**	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**	**Y**	**N**	**N/A**
1. Machine in service												
2. Secured to floor, bench, or table												
3. Electrical cord in good working condition												
4. Blade guard in working condition												
5. Does saw stop when trigger released?												
6. Blade locked down with pin when not in use												

Machine:

Machine:

Machine:

Any items that are identified as high risk must be fixed right away or the machine must be taken out of service.