

GENERAL SAFETY PRACTICES

Shop Behavior

1. "Horse-play", running and the throwing of objects are dangerous practices in any shop and are forbidden at all times, and could cause dismissal from class.
2. Caution other students if you see a violation of a safety rule.
3. When using machines or hand tools, give the job at hand all of your attention.
4. Cooperate with your classmates in the student management program of your shop.
5. Each student is responsible for helping in shop cleanup.

Clothing

6. Loose clothing, jewelry, and gloves are not to be worn while you are working with power tools.
7. Sharp, pointed tools or materials are not to be carried in clothing, Hold sharp points and sharp edges down.
8. Keep hair away from equipment in operation. Long hair must be tied up and back.

Safety Glasses

9. Safety glasses must always be worn while working or watching others work in the shop.
10. Eye glasses must not be used in place of goggles or face shields, unless they have tempered lenses.
11. Face Shields must be used when using abrasive machines.
12. When compressed air is used for cleaning. wear eye protection. Take care to direct chips, shavings, and dust away from other students. **NEVER ALLOW THE STREAM OF AIR TO COME IN CONTACT WITH YOUR BODY.**

Approval

13. Students are to operate only those machines for which they have received instruction and permission to operate.
14. When in doubt, ask your teacher. Do not depend upon the advice of another student.
15. Never operate power machines when the instructor is not in the shop.
16. Ask your teacher to approve all projects you plan to do.
17. All special setups must be checked by the teacher before the power is turned on.
18. Repairs are to be made on shop equipment only when permission has been given. Do not tamper with shop equipment.

Safety Zones

20. Observe safety zones. Only the operator and teacher are permitted within the working area around a machine.
21. Don't lean on the machine. Stand clear
22. Disturbing another student while he is working is a dangerous practice.

Unsafe Shop Conditions

23. If equipment is not working properly, shut it off and tell the teacher at once.
24. Report to the teacher all breakage or damage to tools, machinery, or equipment.
24. Guards and other safety devices are for the protection of the operator and must always be in place.
25. Keep floors, aisles, and passageways clear of stock, tools, and materials.
26. Wipe up immediately any liquids spilled on the floor.
27. Keep tools and materials from projecting over the edge of benches whenever possible.
28. A student who sees a dangerous situation must report it at once to the teacher.
29. The motion involved in striking or cutting must be done in a direction away from you and other students.
30. Compressed air should not be used to clean off machines, because it may cause damage to bearing surfaces.

Electrical

31. The main power switches in the shop must be turned "on" or "off" ONLY by the teacher
32. Make certain your hands are completely dry before touching electrical switches, plugs, or receptacles.

Fire

33. Oily or paint-filled rags must be placed in a covered metal container. Oily and greasy shop clothing must be stored in lockers. Never roll them up,
34. Gasoline, chemicals, kerosene, paints, lacquer, thinner, and other finishes or cleaning materials are to be used in a well-ventilated room; They are never be used near an open flame.
35. Never use water to put out an electrical or oil fire.
36. In case of fire in the shop:
 - a. Sound the alarm: FIRE!!!!
 - b. Turn off all electricity:
 - c. Put the fire out, if possible without injuring oneself.
37. Nothing shall be hung on fire extinguishers, and the area around them must be kept clear so that they may be reached without delay if fire breaks out.

Injury

38. Every injury, no matter how slight, must be reported immediately to your teacher. Explain how it happened.
39. Lifting heavy objects may result in injury. Lift properly or get help, if necessary.

Hand Tools

40. Be sure your hands are as free as possible of dirt, grease, and oil when using tools.
41. Use the proper type and size hand tool for the job.
42. Make sure that the tools you are going to use are sharp and in good condition.
43. Handle edged or pointed tools with care.
44. When using a sharp-edged tool, make sure the edge is pointed away from you and your classmates.
45. Clamp small work on a bench or in a vise when using a cold chisel, a hacksaw, or a screwdriver.
46. Never use a chisel, or punch, or hammer with a "mushroomed" head. Chips may fly off and injure someone.
47. Never use a file without a handle. - Be sure that the handle is properly secured to -the file.
48. Files are hard and brittle. They may break and cause an injury if they are used as a pry bar or a hammer.
49. Pass tools to classmates with the handles first.

Machine Tools

50. Before operating a machine, you must pass the appropriate safety test.
51. Obtain permission from your teacher before using any power equipment.
52. Check all adjustments before starting a machine.
53. Make sure everyone is clear of the machine before starting it.
54. All necessary guards must be in place before using a machine.
55. Only one person may operate a machine at a time.
56. Only one operator should start the machine.
57. Remove all tools, materials, and rags from the machine before starting it.
58. Have the instructor check all special setups and new operations before -turning on the machine.
59. Think about your job while operating a machine. It is dangerous to talk when you are using power equipment.
60. The machine should be completely stopped with the power OFF prior to cleaning, oiling, or repairing. Always turn the power off before leaving a machine.

Machines Safety Practices

Horizontal Band

1. Cut no metal under six inches long and 3/8 of an inch thick.
2. Support ends of long pieces.
3. Be sure your work is clamped firmly before starting the saw.
4. When starting, stand to one side of the saw frame.
5. Never put extra pressure on the saw blade.
6. Turn power off before leaving machine.

Drill Press

7. Be sure your cutting tool is sharp.
8. The cutting tool must be tight in the chuck.
9. Remove the chuck key or drift pin as soon as you finish using it.
10. Always use a vise or other clamping devices to hold your work.
11. Keep your hands away from the turning spindle.
12. Ease up on the pressure when the cutting tool starts to break through the material.
13. Back the cutting tool out, under power, as soon as the hole is drilled.
14. Wait until the cutting tool stops before brushing off chips or removing your work.
15. All special attachments must be checked by the instructor. (flycutter, hole-saws, long drills, etc.)
16. Long pieces should be always be on the left side of the drill press column.
17. Make adjustments only when the power is turned off.

Portable Electric Drill

18. Be sure the switch is in the "off" position before plugging in the electric cord.
19. Hold the machine firmly.
20. Apply straight and steady pressure on the drill.
21. Make sure the drill comes to a complete stop - then rest it on its side.

Bench Grinder

22. See that all guards are in place.
23. The tool rest must always be set as close as possible to the grinding wheel, no greater than 1/8".
24. Always wear a face shield when grinding.
25. Report a cracked or broken wheel to the instructor at once.
26. Keep rags away from the grinder.
27. Do not grind sheet metal on the grinder.
28. Get special permission from your instructor before grinding small objects.
29. Wait until the motor has reached full speed before grinding.
30. Never stand directly in front of the wheel.
31. Always keep your hands away from the grinding machine.
32. Hold your work so it will not be pulled out of or pushed into your hands.
33. Always hold large objects firmly against the tool rest.
34. Use the face of the wheel for grinding, never the side.
35. Keep work in motion across the face of the wheel.
36. Turn the power switch off after using the grinder.

Buffer and Wire Wheel

37. Obtain permission before using the buffer.
38. Remove sweaters and jewelry and roll up your sleeves before operating the buffer.

39. Keep rags away from the wheel.
40. Always wear a face shield when using the buffer.
41. Hold work with both hands.
42. Stand to one side of the wheel.
43. Keep your hands away from the wheel.
44. Buff on the LOWER FRONT QUARTER of the wheel .
45. Buff flat pieces from the center towards the lower edge.
46. Always keep sharp edges pointed down.
47. Use the correct pressure against the wheel .
48. Turn off the power after using the machine.



Machining Safety Practices

Lathes

1. Obtain permission from your teacher before using the laths.
2. Roll sleeves above elbows and remove or fasten any loose clothes.
3. Make all adjustments only when the machine is at a complete stop.
4. Check to see that all guards are in place.
5. Be sure that all parts of the carriers will clear rotating parts during full length of cut.
6. Remove chuck key or wrench immediately after using.
7. Set tool on center of work to be turned.
8. Make sure that no one but you is inside the operator's zone.
9. Place your hands on the controls or at your sides except when filing or polishing.
10. Keep hands away from hot chips.
11. Use tools that are properly ground for the particular job.
13. Finish cuts that are close to the chuck or against a shoulder by hand feed.
14. Bring lathe to a complete stop before reversing.
15. Remove toolholder and tool post before filing or polishing.
16. Shut off power after using the lathe and stand by until the machine has stopped.
17. Clean machine and area.

