Circular Saw Safety Rules

The Circular Saw is one of the most commonly used electric hand tools in use in the world today. Although it isn't commonly used in our shop, it does have its place. When working with large pieces of material such as sheets of plywood it's often easier to break them down to a manageable size using a circular saw rather than performing these initial cuts on a stationary power tool. There are cordless models that give the user more freedom of movement and can be taken to places where electrical outlets aren't available. With the proper blades, these saws can cut a wide variety of materials but our focus is on using them for cutting wood and wood products like lumber, plywood, chipboard, MDF, and particle board.

The Circular Saw usually has an adjustable shoe or foot that can be set for different stock thicknesses, and they can usually be adjusted to make bevel cuts as well as cuts that are 90 degrees to the surface of the material. These saws are available in models that accept different diameter blades with 5 ½" and 7 1/4" being the most common.

Circular Saws are rotating tools. They have the potential to grab and wrap hair, jewelry, fabric or similar material around the blade. While they have blade guards, there's always some portion of the blade that is unguarded while these saws are in use and for your safety you need to keep everything except the material you're sawing well clear of the blade.

To avoid accidents, the following safety rules must be followed by everyone working with a Circular Saw in the CWA / JPM shop. Failure to follow these safety rules can result in personal injury or injury to others and can result in a loss of shop privileges.

WARNING: When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

Safety measures that you should take while using the Circular Saw follow.

Start with a Risk Assessment to ensure a safe work area, and that the machine is ready to use:

1. Follow all procedures in **CHARLOTTE WOODWORKERS' ASSOCIATION Shop Rules and Guidelines, Electrical Safety Rules and Guidelines,** and **Shop Safety Best Practices**.
2. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
3. **Check the tool for proper operation of moving parts.**
4. **Check the lower blade guard for proper operation and to be sure that it has sufficient spring tension to return it instantly when released. To check the lower guard, raise it with the retracting handle and make sure that it moves freely and does not touch the blade or any other part. It should operate smoothly without excessive side play.**
5. **Check for binding of moving parts, and for misalignment of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using it. Many accidents are caused by poorly maintained tools. Develop a periodic maintenance schedule for your Circular Saw and follow it.**
6. **Inspect tools for any damage prior to each use**.
7. **Check the handle and body casing of the tool for cracks or other dam**age.
8. **If the tool has auxiliary or double handles, check them all** to see that they are installed securely.
9. **Inspect cords for defects:** check the power cord for cracking, fraying, wear, cuts or other faults in the cord insulation.

10. **Check for damaged switches. Do not use the tool if the switch does not turn it "ON" or "OFF" reliably.** Any tool that cannot be controlled with the switch is dangerous; have it repaired before using it.
11. **While checking that the switch turns the Circular Saw "On" and "Off" reliably, check the saw for excessive vibration. Do not use a saw that vibrates excessively or appears unsafe in any way.**
12. **Inspect the plug on saws with cords for damage; including cracks and missing, loose, or faulty prongs**.
13. **A damaged or malfunctioning part must be properly repaired or replaced prior to use** to avoid risk of personal injury.
14. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
15. **Don't operate corded saws in damp or wet locations. If operating the saw in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply to power the tool.** Use of a GFCI protected supply reduces the risk of serious electric shock. **Even with GFCI protection, <u>AVOID RUNNING A CORDED CIRCULAR SAW WHILE STANDING IN WATER!!!</u>**
16. Keep the area around where you'll be working clear of people and debris that could impair your traction or footing to avoid potential slips and falls.
17. Saw blades and other cutting wheels can be dangerous. You can injure yourself or a bystander if you aren't careful where you're holding them, even when the saw isn't running.
18. **Dress properly. Don't wear loose clothing or jewelry. If a saw can catch anything while it's running it will either sever it immediately or wrap it up until the blade stop turning.** If you're wearing jewelry such as necklaces, bracelets, or rings that could become caught or entangled in moving parts, remove them and store them safely. Roll up long sleeves, tuck in or remove ties, etc. Air vents often cover moving parts and should be avoided.
19. **If the area you're working in has dust collection capability, ensure that it's connected and properly used.** Use of dust collection capability can reduce dust related hazards.
20. **Don't wear gloves.** If you're working in our shop environment it should never be too cold to work without gloves. If it is, ask a Shop Foreman to have someone turn on a heater.
21. **Tie back, or otherwise secure, long hair.**
22. **Keep your hair and clothing away from moving parts.** Loose clothes, jewelry, or long hair can be caught in the rotating Circular Saw blade, and the result will generally include personal injury.
23. **Keep the saw handles dry, clean and free from oil and grease.**
24. **Never carry the Circular Saw with your finger on the power switch (trigger).** Carrying tools with your finger on the switch or plugging in tools that have the switch held "ON" invites accidents.
25. **Remove the wrench used to tighten the arbor nut and any adjusting keys and/or wrenches before turning the tool "ON"**. A wrench or an adjusting key that is left attached to a moving part of the tool can cause personal injury to the operator or a bystander. There's also the possibility that it may damage the tool, the wrench, or adjusting key. It could also damage the material being worked on or injure a bystander if it was thrown by the revolving saw blade.
26. **Use safety equipment. Always wear eye protection**. Non-skid safety shoes, hard hat, and hearing protection <u>must</u> be used when situations call for them.
27. **Safety glasses (ANSI Z87.1) and (CAN/CSA Z94.3) with side shields or a face shield must be worn.** Everyday eyeglasses are only made of impact resistant glass, they aren't safety glasses. If you're not wearing actual safety glasses, wearing safety goggles over your regular glasses can provide the protection you need.
28. **Hearing protection should always be worn.**
29. **Use the appropriate dust mask or respirator in dusty work conditions.** Circular Saws can create dust and if your operation does, protection from that dust is important.

30. **Give the work your undivided attention.**

Operational Safety Rules:

Circular Saw Safety – You Play a Key Role

1. **Approach your work in the Shop & while using the Circular Saw with a safe attitude!**
2. **Read the manual of operating/safety instructions (User's Manual) that came with the Circular Saw**. If you can't find it and if the Shop Foreman can't help you find it, someone can download a copy of the manual from the internet. This manual should tell you where the various switches and controls for the Circular Saw are and how they're supposed to work.
3. **If you don't know how to use the Circular Saw properly for the work you plan to do, get instruction** on how to use it correctly for what you want to do **BEFORE** beginning.
4. **Keep bystanders, children, and visitors away from the work area while operating a power tool.** Having anybody not involved in the sawing operation nearby can create distractions that can cause you to lose control.
5. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tools while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating a power tool may result in serious personal injury.
6. **Use the Circular Saw, its accessories and blades, etc., in accordance with the manufacturer's instructions for that item and in the manner intended for the particular type and model of tool that you're using, taking into account the working conditions and the work to be performed.** Use of any tool, especially a power tool, for operations different from those it's intended for could result in a hazardous situation.
7. **Keep the Circular Saw's air vents clear to maintain adequate airflow through the tool.** Proper ventilation helps keep the saw from overheating while in use.
8. **Use the proper wrench that fits the arbor nut correctly to tighten and loosen blades.** Using wrenches that don't fit exactly right can damage the arbor nut and have the potential to slip while you're turning them which could result in personal injury or damage to the tool.
9. **Keep power cords away from the saw blade, saw accessories, heat, water and oil.** When using the saw, make sure you place the cord in such a way that you won't cut through it or damage it by accident.
10. **Always make sure that the switch is "OFF" before plugging the Circular Saw in or installing its battery pack.** Basically this means ensure nothing is depressing the power switch, including your finger(s). Accidental start-ups can cause injury.
11. **Carrying a Circular Saw with your finger on the trigger switch invites accidents** if the saw is plugged in or is a cordless model. While it may seem that the blade is well guarded, part of the blade is exposed on most models of Circular Saws and the lower blade guard is retractable as you know if you've used one of these saws.
12. **Never unplug tools by pulling on the power cord.** When unplugging equipment pull on the plug, not on the cord.
13. **Hold Circular Saws only by the handles or another insulated gripping surface when sawing into areas that may contain "live" wires.** On most handheld power tools, Circular Saws included, contact with a "live" wire may make exposed metal parts of the tool "live", which can shock the operator. If possible, do not cut into existing walls or other blind areas where dangers such as electrical wiring, gas lines, or high pressure steam may exist. If this situation is unavoidable, disconnect all fuses or circuit breakers feeding that part of the worksite and ensure that other dangerous services are shut off before proceeding.

Lower Guard Safety

14. The lower blade guard is a safety feature which reduces the risk of serious personal injury. Never use the saw if the lower blade guard is missing, damaged, incorrectly assembled, or is not working properly. Do not rely on the lower blade guard to protect you under all circumstances. Your safety depends on following all warnings and precautions as well as on proper operation of the saw. If the lower

blade guard has a problem, have the saw serviced before using it.

15. **Check that the lower guard closes proper before each use. Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use.** The lower guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris. These are areas to check if servicing is required.
16. **Do not operate the saw if the lower guard does not move freely and close instantly when released.**
17. **Never clamp or tie the lower guard into the open position.**
18. **Raise the lower guard with the retracting handle and make sure that it moves freely and does not touch the blade or any other part, in all angles and depths of cut.**
19. **If the saw is accidentally dropped, the lower guard may be bent.** If you drop the saw, check the lower guard for proper operation and confirm that it clears the blade at all points in its travel prior to resuming use of the saw.
20. **The lower guard should be retracted manually only for special cuts such as "plunge cuts" and "compound cuts." For these special cuts raise the lower guard by the retracting handle and as soon as the blade enters the material, release the lower guard. For all other sawing operations, the lower guard should operate automatically.**
21. **Always check to be sure that the lower guard is covering the blade before placing the saw down on a bench or on the floor. An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path.** Be aware of the time it takes for the blade to stop after the switch is released. The safest approach is to maintain control of the saw until the blade comes to a complete stop. This will greatly reduce the chance of having issues with the saw once you set it down.

Depth of Cut

22. **Set the depth of cut for the Circular Saw to provide the minimum blade exposure necessary for making clean cuts.** The depth of cut should be set so that the blade barely protrudes through the workpiece.

Using the Saw

23. **Never abuse the power cord on corded tools. Never use the cord to carry the Circular Saw.**
24. **Maintain tools with care. Keep the tools clean and in good repair. Keep saw blades clean and sharp.** Properly maintained tools, with sharp blades, are less likely to bind and are easier to control. You also have a better chance of getting satisfactory cuts using tools in good condition.
25. **Any alteration or modification of the Circular Saw is considered misuse and may result in a dangerous condition.**
26. **Inspect your stock carefully before sawing. Stock should be clean, free of dirt and other debris, and not have metal fasteners (nails, screws, staples, etc.) of any kind in the area that will be sawn.**
27. **Never place any part of your body directly in line with the saw blade's path. If you do, eventually you'll end up cutting yourself!!! That is painful at a minimum and could be fatal at worst.**
28. **STOP the saw and wait until the blade has come to a complete STOP before moving the workpiece or clearing sawdust and chips.** This is much safer than working around a moving saw blade.
29. **Do not cut a workpiece that is too small to be safely supported and held securely. If you have small parts that need to have sections removed, consider another approach to the task.** If you aren't sure how to accomplish the work you want to do on small workpieces, ask the Shop Foreman to help you find someone who can assist you. There are so many ways to safely remove material from small workpieces that someone will almost always be able to provide a good recommendation that will allow you to get the job done safely.
30. **When taking a break or when finished using the saw for the day, unplug the Circular Saw or remove the battery pack and store the saw and all of its accessories properly, out of the reach of children and other untrained**

persons. Tools are dangerous in the hands of untrained users.

31. **Before storing the Circular Saw for the day, clean it to remove sawdust so that it will be free of debris when the next person wants to use it. Return the bevel setting to 90 degrees and check that it is set accurately and properly locked at that setting. Coil the cord neatly (if it's a corded model), and then store the tool properly.**
32. **Make certain that all locking adjustments are properly locked and the blade is properly installed and the arbor nut is tightened correctly before plugging the Circular Saw in or installing its battery pack.** Loose adjustments can slip and cause loss of control. Loose blades behave unpredictably, but you can expect they will cause problems once they contact the workpiece to be cuts. A general best practice is to lock each adjustment properly before moving on to the next task as you make the Circular Saw ready to use. NOTE: properly tightened means just that, follow the instructions in the user's manual or other reliable reference. These parts can be over tightened too, so be sure you know how tight "properly" tightened is.
33. **For maximum protection from accidents, effective control of the Circular Saw requires two-handed operation. Keep your second hand on the auxiliary handle or on the motor housing if there isn't an auxiliary handle.** To be sure of the proper approach to gripping the saw for the model of Circular Saw that you're using consult the instruction manual that was provided for that model. **<u>If both of your hands are holding the saw properly, they cannot be cut by the blade.</u>**
34. **Keep a firm grip on the Circular Saw to maintain control and get the cleanest possible cut.** Firm means comfortably firm, not a knuckle whitening clenched grip.
35. **Support and secure the work properly. Stay alert and maintain your grip on the saw while sawing and until the blade comes to a complete stop after you've finished the cut.** This will help prevent a loss of control which could cause injury.
36. **Keep your hands and all other parts of your body, as well as those of any helper or assistant, at least 3 inches either side of the saw's cut line while you're sawing. <u>Be especially mindful of the area below the stock being cut where the blade is traveling without a guard to protect the unaware!</u>**
37. **Keep both hands away from the cutting area and the blade.**
38. **Do not reach under the material being sawn.** The proximity of the blade to a hand that's under the material being sawn is hidden from your sight. Caution all assistants to avoid putting any body part in the areas where saw blade may be traveling and warn them not to reach under that area of the workpiece that's near the cutline**.**
39. **Do not overreach. Keep proper footing and balance at all times**. Proper footing and balance enables better control of the tool in unexpected situations.
40. **Be sure that the saw is up to full speed before the blade contacts the material to be cut.**
41. **Release the switch immediately if the blade binds or the saw stalls.**
42. **Do not force the Circular Saw. Let the blade cut at a rate where it is able to clear the chips and sawdust well and where you don't feel like you're asking it to saw faster than it's able to cut without bogging down. If you're using the right blade for the material you're cutting and the workpiece is properly supported and secured it should cut smoothly without binding or overheating**. The correct tool, properly configured, will do the job better and more safely at the rate it was designed for. If you're having problems with Circular Saw performance, contact the Shop Foreman who can help you determine what's going wrong.
43. Forcing a blade to cut faster than it's able to cut easily will result in poor cut quality.
44. **Blades coast after the trigger is released to turn the saw off (or after the cord is disconnected if the saw is running when that occurs). Serious personal injury may result if you contact the blade while it's still turning.** Always wait for the blade to come to a complete stop before taking your hands off the saw handles. On saws designed with a blade brake, the saw will stop more quickly than on saws

without blade brakes, but you should still wait for the blade to come to a complete stop.

45. **Keep your blade sharp.** If the blade becomes dull, replace it with a sharp blade and contact the Shop Foreman so that the dull blade can be sent for sharpening or replaced in inventory. **DO NOT store dull blades for the next member to use.** No one benefits from doing that.
46. **DO NOT remove the saw from the workpiece while the blade is moving.**
47. **When ripping always use a rip fence or a straight edge guide.** This improves the accuracy of cut and reduces the chance of blade binding.
48. **Use of a straight edge guide will also improve the accuracy of crosscutting, and is especially helpful on wider workpieces.**
49. **Before making any adjustments, performing maintenance, installing or changing accessories, or installing or changing blades, turn the Circular Saw "OFF", let it come to a complete stop, then unplug it or remove the battery pack.** Such preventive safety measures reduce the risk of starting the tool accidentally.

Installing or Changing Blades

50. **Make sure the blade you're planning to install is acceptable for use in the Circular Saw you're going to install it on and that it is appropriate for the work you intend to do. One of the key variables is the type of arbor the saw has.** Some Circular Saws take a blade with a diamond shaped arbor hole and these need a blade that matches that style of arbor. Blades that do not match the mounting hardware of the saw will run eccentrically, causing loss of control. The manual for the Circular Saw you're using should provide instruction on what type of blade to use with the saw. If you can't find the manual, ask the Shop Foreman to help you find someone who can help you look up the information you need or who can provide direction as to the proper type of blade to use.
51. **Other aspects of blade design are important for proper saw performance.** It's relatively common that handheld Circular Saws will use a thin-kerf blade, and selecting a blade for ripping, crosscutting or a combination blade is the sort of choice you'll need to make so that the blade will perform the tasks you hope to accomplish without trouble. There are many other types of blades for these saws, including blades designed for cutting plywood. Selecting the proper type of blade helps keep the saw cutting smoothly, keeps it running cooler, and will result in cleaner, more satisfying cuts.
52. **Never use damaged or incorrect blade washers or the wrong bolt to install a saw blade.** The blade washers and bolt are designed for the Circular Saw model that they are intended to be used with. Using the correct ones helps ensure optimum performance and safety of operation.
53. **Do not use dull, bent or damaged blades.** Blades that are in poor condition are basically just waiting to cause you further problems. Sharpen, repair, or replace damaged blades rather than use them as they are (see Causes and Operator Prevention of Kickback).
54. **Most saw blades are sharp enough to cut you. Handle saw blades with care to avoid injury.**
55. **The sharp edges of most saw blades can be damaged if they are mishandled, dropped, or stored improperly.** Handle saw blades with care and respect. Store them in the proper holders so that their edges are protected and don't drop them, especially on hard floors like the concrete floor in the shop we share with JPM.
56. **Circular Saws generally have a blade arbor lock button that keeps the arbor from rotating while you loosen and tighten the arbor lock nut while changing blades.**
57. **Never engage the blade lock while saw is running, or engage in an effort to stop the tool. Never turn the saw on while the blade lock is engaged. Serious damage to your saw will result.**
58. **When removing saw blades after the saw has been in use, do so with CARE!** Saw blades are **SHARP**, and after you've been using the saw for a while, and especially if the blade has gotten dull, they can be **HOT!** When removing the blade from the Circular Saw do so with care to avoid cutting, and possibly burning, yourself.
59. **To Remove a Blade**

a. **Push in the arbor lock button and rotate the blade by hand until the lock engages the blade arbor.**
b. **While pressing the arbor lock button, loosen and remove the arbor nut. It should turn counter-clockwise.**
c. **Set the arbor nut aside in a safe location, release the arbor lock button, and remove the outer blade flange.**
d. **Retract the lower blade guard and remove the blade.**
e. **NOTE: Some Circular Saws have** Quick-Change blade clamps rather than arbor nuts. If the saw you're using has one of these consult the manual for that tool for instructions on how to use it properly.

60. **To Install a Blade**
    a. Remove any accumulated sawdust or other contaminates from the guards, from around the arbor and from the blade flange and arbor nut.
    b. Check the lower blade guard to ensure that it is in working order.
    c. Clean the inner blade flange.
    d. Retract the lower blade guard, and place the new blade on the arbor. Verify that the teeth point up at the front of the saw.
    e. Place the outer blade flange on the arbor with the smooth side against the blade.
    f. Mate the flats with those on the arbor if your saw is configured with these flats.
    g. Replace the arbor nut finger tight by turning it clockwise. Push in the arbor lock button and hand-tighten the assembly securely with the arbor wrench that came with the saw. Release the arbor lock.
    h. Turn the blade a little by hand to verify that the arbor is no longer locked.
    i. **NOTE: Some Circular Saws have** Quick-Change blade clamps rather than arbor nuts. If the saw you're using has one of these consult the manual for that tool for instructions on how to use it properly.

Dust Collection

61. **Dust collection for handheld Circular Saws is not available on all saws, but is available as an accessory for some brands.** A common complaint about saws that have it seems to be that the open nature the Circular Saw's design renders dust collection somewhat ineffective without modification to help direct the airflow to improve dust pick up. If your sawing application needs dust collection, please contact a Shop Foreman for assistance.
62. **Circular Saws that are configured for dust collection usually have an exhaust nozzle that accepts the vacuum hose that pulls the dust away. Some of these nozzles can rotate so that the hose doesn't constrict the movement of the saw as much as a fixed dust port would. If the saw you're using has a rotating exhaust nozzle, and the vacuum hose isn't attached, <u>DO NOT direct the sawdust toward yourself or others</u>**. To avoid injury from flying sawdust, keep the exhaust nozzle either in the forward position or in the closed position if the port is designed to be closed.
63. **If using a saw with a dust collection port or nozzle DO NOT insert any foreign object into the exhaust opening**.

Accessories

64. **Use only accessories that are recommended by the manufacturer for your model of saw or that are approved for use with your specific Circular Saw model.** Accessories that may be suitable for one model of a tool may become hazardous when used on another model.
65. **Install accessories properly.** Follow the manufacturer's instructions on how to properly install and secure accessories.
66. **If using an accessory that rotates with the saw blade, ensure that it's rated to operate at the RPM of the saw you're installing it on.** Accessories that aren't rated to rotate at the speed of your saw's blade are dangerous. They may fail while turning, possibly disintegrating and throwing the material they're constructed of with the possibility of causing serious injury.

Support and Secure Workpieces for Safe Sawing

67. **Secure material before sawing.** Properly support and secure the stock being sawn.
68. **NEVER support stock to be sawn by hand or with any part of your body (or an assistant's body). Instead clamp it properly to an**

appropriate supporting surface and take steps so that you don't saw into the support unless you plan to replace the support after use. Holding the work by hand or against your body is dangerous and unstable; taking that approach may lead to loss of control if the saw blade binds in the cut while you're sawing and could lead to serious injury.

69. **Make sure all supports, clamps and holding devices are clear of the saw blade's path before continuing.**
70. Keep the stock clamped to the support until the saw blade has passed through the workpiece and the saw blade has stopped turning.

Causes and Operator Prevention of Kickback:
Adapted from Instruction Manual for the Porter-Cable 324MAG/325MAG

Kickback is a sudden reaction to a pinched, bound or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator.

Causes of Kickback

71. **When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the Circular Saw rapidly back toward the operator.**
72. **If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.**
73. **Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as outlined below.**

Reducing Kickback When Using the Circular Saw

74. **Maintain a firm grip with both hands on the saw and position your arms to resist the kickback forces. Position your body to either side of the blade, but not in line with the blade to limit the possibility of injury if kickback occurs.** Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.
75. **When the blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur.** Investigate and take corrective actions to eliminate the cause of blade binding if it occurs.
76. **When restarting a saw in the workpiece, centre the saw blade in the kerf and check that saw teeth are not engaged into the material**. If saw blade is binding, it may walk up or kickback from the workpiece as the saw is restarted.
77. **Support large panels to minimize the risk of blade pinching and kickback.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides of the cutline, near the line of cut and near the edge of the panel. This will provide solid support of the entire panel so that it won't sag or bow as it is being cut.
78. **Do not use dull or damaged blades.** Dull or improperly set blades produce a narrow kerf which leads to excessive friction between the workpiece and the blade, blade binding and kickback.
79. **Blade depth and bevel adjustment locking levers must be tight and secure before making a cut.** If the blade adjustment shifts while cutting, it may cause binding and kickback.
80. **Use extra caution when making a "plunge cut" into existing walls or other blind areas.** The protruding blade may cut objects that can cause kickback.

Hazardous Materials

81. **Some dust created by power sanding, sawing, and grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:**
    • Lead from lead-based paints
    • Crystalline silica from bricks, cement and other masonry materials
    • **Arsenic and chromium from chemically treated lumber**
    Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Maintenance and Service

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury. For example, internal wires may be misplaced or pinched. If a tool belonging to CWA or our host organization needs maintenance, contact the Shop Foreman. If the tool is still under warranty, they will make arrangements for the service to be done under the warranty. If the manufacturer's warranty has expired, they will ensure that the tool is repaired by properly qualified repair personnel.
2. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of the manual applicable to that make and model of tool.** Use of unauthorized parts or failure to follow the correct maintenance instructions may create a risk of electric shock or injury.
3. **Certain cleaning agents such as gasoline, carbon tetrachloride, ammonia, etc. may damage plastic parts.** Before using chemical cleaning agents on a tool, check the manual for that make and model of tool for approved cleansers and cleaning procedures.