MACHINE GUARDS AND PORTABLE TOOL SAFETY

PORTABLE TOOLS

All portable tools shall be used according to the manufacturer’s instruction, with the guards provided upon purchase, and for its intended purpose (i.e. a screwdriver shall not be used as a chisel). Never use damaged tools. Tools that have become damaged shall be taken out of service and replaced or repaired. Report damaged tools to your supervisor or designee. The following requirements apply to the specific type of tool.

A. Hand Tools
   Hand tools are tools that are powered manually by physical exertion and include equipment such as axes and wrenches. Employees are expected to observe the following precautions:
   1. Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Where this hazard exists, spark-resistant tools made of non-ferrous materials should be used.

B. Power Tools
   Power tools are extremely hazardous when used improperly and must be fitted with guards and safety switches where appropriate. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, and hydraulic.

   1. General precautions for all power tools:
      a. Never carry a tool by the cord or hose;
      b. Never jerk the electrical cord or the hose to disconnect it from the receptacle;
      c. Keep cords and hoses away from heat, oil and sharp edges;
      d. Disconnect tools when not in use, before servicing and cleaning them and when changing accessories such as blades, bits, and cutters;
      e. Keep all employees not involved with the work at a safe distance from the work area;
      f. Secure work with clamps or a vise where possible, freeing both hands to operate the tool;
      g. Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool. Before plugging or unplugging tools, be sure power switch is turned to “off”; and
      h. Follow the manufacturer’s guidelines for operation and maintenance. Remove all damaged portable electric tools from use and tag them, “Do Not Use.”
2. **Electric Tools**
   All portable electrical tools shall be grounded or labeled by the manufacturer as double insulated. Ground prongs shall never be removed from portable electrical tools in order to plug into a receptacle. Do not use electric tools in damp or wet locations unless they are approved for that purpose and can be plugged into a circuit that is ground-fault protected.

3. **Pneumatic Tools**
   Pneumatic tools must be fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used to keep the tool from being ejected. Water hose clamps shall not be installed on compressed air lines or equipment. Compressed air shall not be used for cleaning unless the pressure is reduced to 30 psi or less. All nozzles shall be equipped with a blow-back feature.

4. **Hydraulic Tools**
   A jack shall never be used to support a lifted load. Once the load has been lifted it must immediately be blocked up. Place block under the base of the jack when the foundation is not firm, and place a block between the jack cap and load if the cap might slip.

C. **Portable and Stationary Abrasive Wheel Tools**
   Abrasive wheel tools must be equipped with guards that: (1) cover the spindle end, nut and flange projections; (2) maintain proper alignment with the wheel; and (3) do not exceed the strength of the fastenings.

1. **Abrasive Wheel Inspection**
   All stone wheels on portable tools and stationary tools shall be inspected and ring tested before being mounted to the tool. To test, wheels should be tapped gently with a light, non-metallic instrument. If the wheels sound cracked or dead, they must not be used because they could fly apart in operation. A stable and undamaged wheel, when tapped, will give a clear metallic tone or “ring.”

2. **Soft metals (such as aluminum) should not be used on stone wheels.** When soft metal is found in the stone wheel, a dressing tool shall be used to remove the metal in the pores of the stone.