APOLLO INDUSTRIAL SAFETY AND HEALTH PROGRAM

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| Title  HAND AND PORTABLE POWER TOOLS | Number  AISH 38 | Revision  02 |
|  | Effective Date  03/22/17 | Page  1 of 6 |

1. **Purpose**
2. To establish the requirements for the selection, use, and maintenance of hand and portable power-operated tools. Further, to ensure compliance with Federal and State requirements.
3. **Responsibility**
   1. The Key Supervisor shall be responsible for implementation and ensuring compliance with this procedure.
   2. Employees shall be responsible for complying with the provisions of this procedure.
4. **Definitions**

Not Applicable

1. **General Requirements**
   1. The selection, use, and maintenance of hand and portable power-operated tools shall comply with the following statutory requirements:
2. 29 Code of Federal Regulations (CFR) Part 1926, Subpart I; Tools – Hand and Power.
3. 29 Code of Federal Regulations (CFR) Part 1910, Subpart P; Hand and Portable Powered Tools and Other hand-Held Equipment.
4. Washington Administrative Code (WAC) 296-155, Part G; Tools – Hand and Power.
   1. Hand and power tools and similar equipment shall be maintained in safe condition.
   2. Employees shall examine hand and power-operated tools prior to use. Defective tools shall be turned in for repair or replacement.
   3. When power-operated tools are designed to accommodate blade/wheel guards, they shall be equipped with such guards when in use.
   4. Appropriate personal protective equipment shall be identified, provided, and used for the safe operation of hand/power tools.
   5. Power tools shall be disconnected from their energy source when changing attachments or conducting repairs/maintenance on the tool.
   6. Requirements for personal protective equipment shall be identified and communicated. For stationary grinding machines, cut-off machines, etc., requirements shall be posted at the location of the machine.
   7. Portable power tools shall be equipped with a constant-pressure switch that will shut off power when the operator releases the pressure.

EXCEPTIONS: Hand-held powered grinders with wheels two inches or less in diameter, routers, planers, laminate trimmers, nibblers, shears, scroll saws, and jig saws with blade shanks ¼ inches wide or less, may be equipped with a positive “ON-OFF” switch.

* 1. Blades and wheels shall have the proper rating and revolutions per minute for the tool.
  2. Ensure that the right sized tool is used for the job.

1. **Procedure**
   1. Hand Tools
      1. Wrenches with sprung jaws shall not be used.
      2. Impact tools such as drift pins, wedges, and chisels shall be kept free of mushroomed heads.
      3. Wooden handles of tools shall be kept free of splinters or cracks, and shall be kept tight in the tool.
   2. Electric Tools
      1. Electric power-operated tools shall be double insulated or grounded in accordance with AISH 29, and other applicable OSHA/WISHA/ANSI standards.
      2. Power tools shall not be hoisted or lowered by their electric cords.
      3. Ensure ½ inch drills have clutches.
   3. Pneumatic Tools
      1. Pneumatic tools shall not be hoisted or lowered by their hoses.
      2. Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent attachments from being accidentally expelled.
      3. All pneumatically driven nailers, staplers, and other similar equipment provided with an automatic fastener feed shall be equipped with a safety device on the muzzle to prevent the tools from ejecting fasteners when the muzzle is not in contact with the work surface.
2. EXCEPTION: Pneumatic nailers or staplers utilizing “fine wire” brads or staples do not require a muzzle contact safety device under the following circumstances:
3. The overall weight of the fastening device does not exceed the weight of 1-1/2 in. of standard 18 gauge wire.
4. The operator and any other person within 12 ft. of the point of operation wear approved eye protection.
   * 1. All hoses exceeding ½ in. at the inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
     2. Pneumatic power tools shall be secured to the hose or whip to prevent the tool from becoming accidentally disconnected.
     3. All pneumatic tools shall be equipped with deadman switches. Governor-controlled pneumatic tools shall be equipped with an air filter and oilier.
     4. Pneumatic tools shall not be connected to an air supply, which exceeds the tool rating.
   1. Fuel Powered Tools
      1. Fuel powered tools shall be stopped and allowed to cool prior to being refueled, serviced, or maintained.
   2. Hydraulic Powered Tools
      1. Fluids used in hydraulic powered tools shall be fire-resistant fluids, approved under Schedule 30 of the Bureau of Mines.
      2. The manufacturer’s safe operating pressures for hoses, valves, pipes, filters, and other fittings shall not be exceeded.
   3. Powder Actuated Tools
      1. Only qualified operators (trained by the manufacturer) shall be permitted to use powder-actuated tools.
      2. When in use, powder actuated tools shall be tested each day before loading (in accordance with the manufacturer’s recommended procedure) to ensure that safety devices are in proper working condition.
      3. Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools shall be pointed at persons.
      4. Loaded tools shall not be left unattended.
      5. Fasteners shall not be driven into very hard or brittle materials such as cast iron, glazed tile, hardened steel, glass block, live rock, face brink, or hollow tile.
      6. Driving into easily penetrated materials shall be avoided, unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.
      7. Powder actuated tools shall not be use in atmospheres having a 10% or greater reading for Lower Explosive Limit.
      8. Tools shall always be used with the correct shield, guard, or attachment as recommended by the manufacturer.
      9. Powder actuated tools shall be stored in labeled, lockable containers so as to render them unavailable to unauthorized persons.
      10. Tools shall be operated in strict accordance with the manufacturer’s instructions. Only those types of fasteners and powder loads recommended by the tool manufacturer shall be used.
      11. Prior to driving a fastener, the operator shall inspect the line-of-fire to assure safety should the fastener penetrate completely through the work surface.
      12. The tool shall be held perpendicular to the work surface when fastening into any material, except for specific applications recommended by the manufacturer.
      13. In the event of a misfire, the operator shall follow the explicit instructions set forth by the tool manufacturer.
      14. A sign at least 8 x 10 inches, using boldface type at least 1 inch in height shall be posted in plain sight on all construction projects where powder actuated tools are in use. The sign shall bear wording similar to the following: “**POWDER ACTUATED TOOL IN USE**.”
      15. Spent shell casing shall be picked-up and deposed daily.
      16. Misfire shells shall be placed in water until the end of shift.
   4. Abrasive Wheels and Tools
      1. Abrasive wheels shall be closely inspected and ring-tested before mounting to ensure that they are free from cracks or defects.
      2. Training shall be provided for those employees who may be required to perform ring-testing; ring-testing is conducted **only** by trained personnel.
      3. Machine spindle speeds shall be checked before mounting the wheel to be certain that the wheel will not exceed the maximum operating speed marked on the wheel.
      4. Abrasive wheels shall be used only on machines with safety guards except as follows:
5. Wheels used for internal work while within the work being ground.
6. Mounted wheels 2 “and smaller in diameter used in portable operations.
7. Types 16, 17, 18, 18R, and 19 cones and plugs, and threaded hole pot balls where the work offers protection.
   * 1. Abrasive wheels shall be handled and stored in a manner that prevents damage to the wheels.
     2. Stationary grinding machines shall be equipped with a transparent spark shield, tongue guards (adjusted within ¼ inch of the wheel), and a work rest (adjusted within 1/8 inch of the wheel).
     3. Stationary grinding machines (impermanent locations/shops) used for dry grinding shall have provisions to exhaust or control dusts.
     4. Pneumatic grinding machines shall be operated at the correct pressures and off a regulated air supply.
   1. Woodworking Tools: All portable power-driven circular saws shall be equipped with guards above and below the base plate or shoe. Lower guards shall be properly maintained to ensure that they will automatically and instantly return to the covering position when the tool is withdrawn from the work.
   2. Jacks – Lever and Ratchet, Screw, and Hydraulic
      1. The manufacturer’s rated capacity shall be legibly marked on all jacks, and shall not be exceeded.
      2. All jacks shall be provided with a positive stop to prevent over-travel.
      3. When it is necessary to provide a firm foundation, the base of the jack shall be blocked or cribbed. When there is a possibility of slippage of the metal cap of the jack, a wood block shall be placed between the cap and the load.
      4. After a load has been raised, it shall be immediately cribbed, blocked, or otherwise secured.
      5. Jacks shall be properly lubricated at regular intervals, in accordance with the manufacturer’s instructions.

**6.0 Records**

Not Applicable

**7.0 References**

American National Standards Institute (ANSI) A10.3-1985; Safety Requirement for Powder Actuated Fastening Systems.

ANSI B7.1-1988, the Use, care, and Protection of Abrasive Wheels

ANSI 01.1-1961, Safety Code for Woodworking Machinery

**8.0 Attachments**

Not Applicable