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PART 4 – HAND TOOLS AND POWER DRIVEN PORTABLE TOOLS

DEFINITIONS

4.01 In this part, the following definitions apply:

“guard”

means a type of safeguard consisting of a physical barrier preventing a worker from reaching over, under, around or through the barrier to a moving part or point of operation;

“point of operation”

means the danger area in a machine where a part is being formed or work is being done;

“power transmission part”

means any moving part of a machine that transfers power from a power source to a point of operation;

“safeguard”

means the use of a guard, a safety device, a shield, an awareness barrier, warning signs, or other appropriate means, either singly or in combination, to provide effective protection to workers from hazards;

“safety device”

means a type of safeguard consisting of an arrangement of operating controls, an active or passive physical restraint, an interlock, or a presence-sensing device that ensures that a worker cannot access or be in a hazardous area while a machine is operating;

“shield”

means a type of safeguard consisting of a physical cover or barrier that restricts, but does not prevent, access to a hazardous moving part or a point of operation.

GENERAL

4.02 Every hand tool or portable power tool must be selected for its design and construction to be safe under all conditions of its intended use.

Tool selection

- (1) Hand tools shall be suitable for the work they are intended for and be
 - (a) used for the purposes for which they are designed,
 - (b) inspected and replaced or repaired if they are found to be defective, and
 - (c) not left in elevated locations where they could fall on workers.

Handles

- (2) Handles for tools such as axes, hammers and sledge hammers shall be firmly fixed to the heads of the tools and replaced if found defective.
- (3) Files shall be provided with metal ferruled handles or other suitable handles, and not used without them unless the tangs are bent in a loop.

Jacks

- (4) Where jacks are used to lift loads they shall
 - (a) rest on solid bases, and
 - (b) be aligned with the load to be lifted.

Tool extensions

- (5) Pipes and other extension pieces shall not be used to extend wrench handles unless the tools are designed by the manufacturer to be used under such conditions.

Worker's responsibilities for tool use	4.03	<p>A worker shall</p> <ul style="list-style-type: none"> (a) carry, handle and use tools in a safe manner, (b) maintain tools in proper working condition, (c) inspect a tool before use, (d) report any defects to a supervisor, (e) place tools in safe and appropriate containers or places when not in use, (f) use a holding device to hold any tool to be struck by another worker, (g) keep guards in place while using a tool, (h) hold the end of a tool with a flexible shaft firmly when starting the motor to prevent the shaft from whipping, (i) not use defective tools, (j) use a tool for its designed purpose, (k) not leave a tool on the floor, passageway or stairway where it may create a tripping hazard, and (l) not point a tool at any person if it ejects pins, nails or any other projectiles.
Work in explosive atmosphere	4.04	<p>Where there is a risk of igniting an explosive or flammable atmosphere, only tools made of non-sparking material or that have non-sparking exteriors shall be used.</p>
Air tool triggers	4.05	<p>The operating trigger of a portable pneumatic tool shall be</p> <ul style="list-style-type: none"> (a) located to reduce the risk of accidental starting, (b) designed to automatically close the compressed air supply valve when the operator releases it, and (c) released after each shot to allow the muzzle safety device to function.
Air tool operation	4.06	<p>When using a portable pneumatic fastening tool, a worker shall</p> <ul style="list-style-type: none"> (a) not secure the trigger or hold it in operating position while moving between operations, (b) not point it at anyone, and (c) disconnect the air supply before the tool is serviced.
Air grinders	4.07	<p>Pneumatic grinders shall be</p> <ul style="list-style-type: none"> (a) tested with a tachometer at regular intervals to ensure no over-speed of discs or stones, and (b) adjusted to operate at the correct speed when found to be operating higher than the rated speed.
Portable electric tools	4.08	<p>(1) Portable electric power tools used by workers shall be</p> <ul style="list-style-type: none"> (a) designed for commercial or industrial use, (b) certified for safe operation by the Canadian Standards Association or other such similar agency acceptable to the director, (c) cleaned with a non-toxic, non-flammable solvent or according to the manufacturer's specification, (d) intrinsically safe if used in an area where there is the possibility of an explosive atmosphere, (e) effectively grounded by using three wire cords and three pronged polarized plugs inserted in grounded, polarized receptacles or provided with double insulation, and so marked, (f) equipped with a double insulated portable ground fault circuit interrupter of Class A type, if impractical to bond to ground, (g) regularly examined and any defects remedied prior to use, (h) operated with guards or any safety devices left in place, (i) equipped with fittings and couplings appropriate to the intended use and that meet the manufacturer's specification, and (j) provided with a shut-off device readily accessible to the workers.

- Temporary electric wires and air hoses**
 - (2) Temporary electrical wires and air hoses to power driven tools or other equipment shall be
 - (a) replaced when the insulation becomes cracked or frayed,
 - (b) suspended appropriately off the floor, or
 - (c) protected against any physical damage or from presenting a tripping hazard when laid on the floor.
 - (3) Extension cords and other temporary electrical services shall be kept free of moisture, dirt and unnecessary abrasion.
- Electrical cords and appliances**
 - (4) Electrical wires supplying power to tools shall incorporate a ground conductor.
 - (5) Portable power driven tools shall be examined regularly and any defects corrected before use.
 - (6) Guards or any safety devices shall be left in place while the tool is in use.
- Heavy-duty cords**
 - (7) Where power tools, lamps or other electrical equipment are subject to hard usage, the cords shall be coated or provided with heavy-duty insulating material.
- Portable cords**
 - (8) Portable electrical equipment, including temporary lighting, used outdoors or in wet or damp locations, shall be protected by an approved ground fault circuit interrupter of a Class A type installed at the receptacle or the circuit panel.
- GFCI**
 - (9) A ground fault circuit interrupter shall not be used in place of grounding except as permitted by the *Canadian Electrical Code*.
- Repairs or adjustment** **4.09**
 - (1) Before removing or changing any attachment or adjusting or repairing a power tool, the worker shall disconnect the tool from its power source in a manner that ensures it cannot be reconnected inadvertently.
- Air supply lines**
 - (2) Before disconnecting the air supply from a portable power driven tool, a worker shall shut off the air supply and bleed the air line, unless the air line has a quick disconnect coupling that makes such precautions unnecessary.
- Air tool supply lines**
 - (3) A worker shall not use a pneumatic portable tool or air hose so as to direct the air stream against any person.
 - (4) A worker shall not use hydraulic, pneumatic, chemical or electrical lines or hoses in a manner that creates a safety hazard to workers.

CHAIN SAWS

- General requirements for chain saws** **4.10**
 - (1) Chain saws shall meet the requirements of *CSA Standard Z62.1-03, Chain Saws*, or other similar standard acceptable to the director.
 - (2) A chain saw used by a worker shall be equipped with
 - (a) a handle vibration isolation system that
 - i. dampens vibration in both the front and rear handles, and
 - ii. enables the worker to stop the chains saw in the event of the failure of an isolator,
 - (b) an anti-kickback chain, and
 - (c) a chain brake that activates automatically upon a kickback regardless of the position of the power head or the worker's hands
 - i. when the guide bar is 0.66 m (26 in.) or less in length, or
 - ii. when the guide bar is more than 0.66 m (26 in.) on a saw manufactured after December 31, 2003.
- Tool design**
- Chain**
- Chain brake**

Working alone and emergency equipment

- (3) A worker operating a chain saw shall
 - (a) have a suitable fire extinguisher or a round point shovel readily available during the fire season,
 - (b) have suitable first aid supplies including a pressure bandage readily available,
 - (c) not cut brush that is less than 0.03 m (1.2 in.) in diameter, and
 - (d) not work alone in a forestry operation as defined in Part 12 – Forestry and Wood Products.

**Specific requirements
Protective equipment**

4.11

A worker using a chain saw, brush saw or clearing saw shall

Engine off

- (a) wear appropriate personal protective equipment, as required in Part 1 – General,
- (b) stop the motor before carrying the saw from one location to another, unless the next cut is in the immediate area and he or she can safely move to the next cutting position,

**Adjusting the chain
Idling**

- (c) stop the motor before adjusting the chain,
- (d) adjust the saw according to the manufacturer's recommendation so the chain is stopped while the motor is idling,

**Defective saw
Starting**

- (e) immediately remove a defective saw from use until repaired,
- (f) start the saw when it is cold by holding it firmly against a solid object below waist level,

**Grip
Footing**

- (g) hold the saw in both hand while operating it,
- (h) stand on a solid base while operating the saw,
- (i) move the saw at least 3 m (10 ft.) from where it was refuelled before starting the engine, and
- (j) refuel only from an approved gasoline container with a spout or funnel to minimize spillage,

Drop starts

- (k) not drop start the saw by pulling on the cord while the other hand engages the throttle mechanism,

**Reach
Standing
Girdling
Refuelling**

- (l) not operate the saw above shoulder height,
- (m) not climb on, or work under, a felled tree,
- (n) not girdle a tree, and
- (o) not refuel the saw while the engine is operating or it is near a source of ignition.

BRUSH SAWS

Clearing or brush saw operation

4.12

A worker who operates a brush saw or a clearing saw shall

- (a) ensure that the saw is equipped with an adequate blade guard,
- (b) maintain a minimum of 10 m (33 ft.) distance from any other person while operating the saw,
- (c) regularly inspect the blade and file it when necessary,
- (d) stop the engine before any inspection, manual adjustment, cleaning, clearing of debris, filing or other work is carried out on the blade or blade guard,
- (e) replace the blade at the first sign of a crack or fracture,
- (f) ensure that the harness used is well maintained and properly adjusted and that the emergency release device on the harness functions properly, and
- (g) not start the saw while it is attached to the harness.

POWDER ACTUATED TOOLS

- 4.13** Powder actuated tools shall be operated and maintained according to the following:
- Design**
 - (1) The design of the tool shall
 - (a) require two distinct and separate motions to activate the powder actuated tool with the firing movement being separate and subsequent to the depressing of the tool into the firing position, and
 - (b) provide for a positive means of varying the power level so that the worker may select and use a power level appropriate to the task.
 - Tool marking**
 - (2) The powder load of each cartridge for the tool shall be clearly identified, and different power levels and types kept in different compartments or containers.
 - Powder load**
 - (3) A powder actuated fastening system consisting of the tool, power load and fastener shall meet the requirements of *ANSI Standard A10.3-1995, Powder Actuated Fastening Systems*, or other standard acceptable to the director.
 - Low velocity**
 - (4) A low velocity powder actuated tool with a fastener test speed rating of less than 100 m (330 ft.) per second shall be used unless no low velocity tool available on the market is capable of doing a particular fastening job.
 - Fasteners**
 - (5) Boxes of fasteners for the tool shall be legibly and durably marked to show the manufacturer's name or trademark and the type or size of fastener.
 - Storage**
 - (6) The tool shall be securely stored in unloaded condition and be accessible only to qualified and authorized workers.
 - Workers training for powder actuated tools**
 - 4.14** Workers operating powder actuated tools shall be
 - (a) adequately trained in the use of the tool,
 - (b) aware of the materials that may or may not be shot into,
 - (c) holders of a valid operator's certificate issued by a safety officer or an instructor approved by the director,
 - (d) authorized by their supervisor to operate the tool, and
 - (e) wearing proper personal protective equipment.
 - Usage**
 - 4.15** A powder actuated tool shall
 - (a) be used in accordance with the manufacturer's instructions,
 - (b) only be used in a confined space when it is properly ventilated, and
 - (c) not be used in an explosive or flammable atmosphere.

PORTABLE CIRCULAR SAWS

- 4.16** Portable hand-operated circular saws may only be operated if
- Saw guards**
 - (1) the saw is equipped with a guard that automatically covers the entire blade when the saw is not in use, and
 - (2) the guard on the saw remains fully functional.

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