DEPARTMENT OF LABOR AND INDUSTRY

MNOSHA Instruction **STD 1-12.3B**
June 12, 2014
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SUBJECT: Manual Milling Machine Safeguarding

Purpose:

To clarify safeguarding requirements for manual milling machines that remove metal or other materials by use of a rotating cutter.

Scope:

This instruction applies MNOSHA-wide.

References:

1. Section 1910.212 covers the general requirements for machine guarding to protect the operator and other employees in the work area from hazards such as those created by the chips generated, the coolant, the rotating cutter and the tool trapping area that exists when the tool approaches the workpiece.

2. MN Rule 5205.0865 – Machine Controls and Equipment covers shut off of equipment by the operator without leaving the point of operation.

3. MN Rule 5205.0880 **–** Motor Start Button – covers motor start buttons on equipment with exposed points of operation, pinch points, or nip points being protected against unintended operation.

4. ANSI B11.8-1983 **–** "Safety Requirements for the Construction, Care, and Use of Drilling, Milling, and Boring Machines."

5. ANSI B11.8-2001 (R2012) – “Safety Requirements for Manual Milling, Drilling, and Boring Machines with or without Automatic Control”

6. CPL 03-00-003 – "National Emphasis Program on Amputations," Federal Directive dated 10/27/06, formerly known as CPL 2-1.35 (CPL 03-00-002), dated 3/26/02.

Cancellation:

This instruction cancels MNOSHA Instruction STD 1-12.3, dated March 28, 2005.

ACTION:

A. POINT OF OPERATION HAZARD

1. The point of operation on a milling machine is defined as the point or area where the cutting edge of the tool is in contact with the workpiece. See section B for citing hazards of the rotating cutter and the trapping area that exists when the tool approaches the workpiece; this may constitute a hazard. See section C for action to be taken to cite the chip and coolant hazards. For milling machines with automatic or semi-automatic capabilities, other safeguarding requirements may apply.

2. Minnesota Rule 5205.0865 requires the operator be able to cut the power without leaving his/her position at the point of operation if operating a machine with points of operation, pinch points, or nip points. The OSHI must document the location of the button or other similar item to cut the power off. The OSHI should take measurements and photos to show where the power is cut off from the point of operation. Citations for lack of the ability to cut off power shall be cited under Minnesota Rule 5205.0865.

3. Motor start buttons shall be physically protected against unintended operation for machines with exposed points of operation, pinch points, or nip points. Citations for unprotected motor start up buttons shall be cited under Minnesota Rules 5205.0880.The OSHI should document the characteristics of the start up button and how it is unprotected against unintended operation. The OSHI should take photos of the motor start up buttons.

B. ROTATING/CUTTER HAZARD AND TOOL TRAPPING HAZARD

1. **Manual Mode.** Machines operating in the manual mode generally do not require safeguarding of the rotating cutter if it can be shown that no hazards to entanglement of hair, clothing, or other body parts exist.

2. **Automatic and Semi-automatic Mode.** If the milling machine has any capabilities to operate in automatic or semi-automatic mode, refer to ANSI B11.8 for safeguarding guidelines.

3. **Citations.** Citations for exposure of the operator to rotating cutter and tool trapping hazards are to be written under 1910.212(a)(1). The OSHI must thoroughly document employee exposure with photos, measurements, interview statements, or other means:

   a. The distance the operator stands from the rotating cutter during normal operations;
   b. How an accident could occur;
   c. What are feasible abatement methods for protecting the operator;
   d. Any reasons why the OSHI believes that the distance between the operator and hazard is not sufficient to protect the operator.

   The OSHI should document the training and skill of the exposed employee concerning their knowledge of hazards and an alternative to safeguarding as well as any training of instruction provided by the employer.

C. CHIP OR COOLANT HAZARD, OR BOTH

A permanent or portable shield or other means shall be used to prevent chips and/or coolant from being thrown or splashed onto an operator, an aisle, or an assigned work area.

1. Cite 1910.212(a)(1) if flying chips present a hazard.

2. Cite 1910.132(a) if splashes from coolant could present a skin irritation hazard.

3. Cite 1910.133(a)(1) if the shield or guard does not supply complete protection for the eyes or face.

4. Cite 1910.212(a)(3)(iii) if chips that are being generated, such as long string chips, and are being handled by hand. Chips shall be removed by the use of a tool, a puller, a brush, or automatically, but never by unprotected hands reaching into the point of operation.

5. Cite Minnesota Rule 5206.0700, subp.1 and 2 for lack of Right-to-Know Training for coolant and other chemicals used in the manufacturing process. Refer to current deadlines for compliance and directives regarding Globally Harmonized System requirements. After June 1, 2016, refer to current directives regarding hazardous chemicals training under 1910.1200.

6. Cite 1910.22(a)(2) if splashes from coolant could present a slip hazard in an aisle or assigned work area and a cleaning schedule has not been implemented or is inadequate.

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Distribution: OSHA Compliance and WSC Director

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