



MNOSHA Instruction **STD 1-12.3C**

October 13, 2025

## **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. General Industry Regulations & Standards, [29 CFR 1910.212 - General requirements for all machines](#)
2. [MN Rule 5205.0865](#) – Machine Controls and Equipment
3. [MN Rule 5205.0880](#) – Motor Start Button
4. ANSI B11.8-2021 Safety Requirements for Manual Milling, Drilling and Boring Machines with or without Automatic Control
5. [Federal OSHA Standard Interpretation dated 02/18/1976](#), “Point of operation guarding for cutters on milling machines.”
6. [Federal OSHA Standard Interpretation dated 08/24/2005](#), “Lockout/tagout requirements for servicing manually-controlled vertical/horizontal milling machine and drill press tool changes.”

### **Cancellation:**

This instruction cancels MNOSHA Instruction STD 1-12.3B, dated June 12, 2014.

### **Background:**

OSHA’s machinery and machine guarding regulations ([29 CFR Part 1910 Subpart O](#)) require that one or more guarding methods be provided to protect (operating, minor servicing and other nearby) employees from exposure to hazardous machine energy.

[29 CFR 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.

## **ACTION:**

### **A. HAZARDS RELATED TO THE MILLING MACHINE AND THE POINT OF OPERATION**

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 of this directive](#) 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 of this directive](#) 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. See [Section B.2](#) of this directive for additional information.

#### **1. Power Switch**

[Minnesota Rule 5205.0865](#) requires that on machines with points of operation, pinch points, or nip points, each machine shall be equipped so it is possible for the operator to cut off the power to each machine without leaving the position at the point of operation.

- a. The CSHO must document the location of the button or other similar item to cut the power off.
- b. The CSHO should take measurements and photos to show where the power is cut off from the point of operation.

If the employee operating the milling machine is not able to cut the power without leaving their position, CSHO shall propose a citation for [Minnesota Rule 5205.0865](#).

#### **2. Motor Start Buttons**

[Minnesota Rule 5205.0880](#) requires that the motor start button on machines with exposed points of operation, pinch points, or nip points shall be physically protected against unintended operation.

- a. The CSHO should document the characteristics of the start-up button and how it is unprotected against unintended operation.
- b. The CSHO should take photos of the motor start up buttons.

If motor start button on the milling machine is not protected from unintended operation, CSHO shall propose a citation for [Minnesota Rule 5205.0880](#).

### 3. Workpiece Securement

Workpieces shall be properly clamped or otherwise secured to prevent ejection from the task or hazard zone. If the workpiece is not secured to prevent ejection, CSHO shall propose a citation for [29 CFR 1910.212\(a\)\(1\)](#).

## B. HAZARDS RELATED TO THE ROTATING/CUTTER AND TOOL TRAPPING

### 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 is capable of both manual and automatic operation but is used for the production of a single type of part, an interlocked movable guard shall be provided.

For machines which are capable of both manual and automatic operation and used to produce more than one type of part, a connection point for an engineering control – device(s) (e.g., interlock, light curtain) shall be provided.

For additional information refer to ANSI B11.8.

### 3. Citations Guidance

Citations for employee exposure to rotating cutter and tool trapping hazards shall be written under [29 CFR 1910.212\(a\)\(1\)](#). The CSHO 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. Feasible abatement methods for protecting the operator;
- d. Reasons why the CSHO believes that the distance between the operator and hazard is not sufficient to protect the operator.

The CSHO 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. HAZARDS RELATED TO CHIPS AND COOLANTS

A permanent or portable shield or other means shall be used to prevent chips and/or coolant from being thrown or splashed onto an employee operating the machine, an aisle used by employees, or an employee's assigned work area.

1. If flying chips present a hazard, CSHO shall propose a citation for [29 CFR 1910.212\(a\)\(1\)](#).
2. 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. If chips that are being generated, such as long string chips, ~~and~~ are being handled by hand, CSHO shall propose a citation for [29 CFR 1910.212\(a\)\(3\)\(iii\)](#).
3. If splashes from coolant could present a skin irritation hazard, CSHO shall propose a citation for [29 CFR 1910.132\(a\)](#) if personal protective equipment is not provided by the employer.
4. If the shield or guard does not supply complete protection for the eyes or face, CSHO shall propose a citation for [29 CFR 1910.133\(a\)\(1\)](#).
5. If flying chips and / or coolant present a hazard, CSHO should request the employer's written Hazard Assessment for personal protective equipment. Please reference [MN OSHA STD 1-6.6: Personal Protective Equipment Used in General Industry](#) for more information.

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Distribution: OSHA Compliance and WSC Director

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