



**Labour and Workforce Development**

**OCCUPATIONAL HEALTH AND SAFETY DIVISION**

**Mechanical Safety**

**A guide to Part 8 of the**

**Occupational Safety General Regulations**

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## A GUIDE TO PART 8 – MECHANICAL SAFETY - of the OCCUPATIONAL SAFETY GENERAL REGULATIONS

The information contained in this publication is a guide only and should be read with the *Occupational Safety General Regulations* for specific requirements. The Regulations are available through our web site at <http://www.gov.ns.ca/lwd/healthandsafety/pubs.asp> or copies may be requested by calling the Information Specialist at 902-424-5400 or toll-free 1-800-952-2687. For your reference and convenience the section of the Regulation has been included where possible.

## **Part 8-Mechanical safety**

### **General provisions (sections 84-85)**

#### **What is a machine?**

A machine is an object used to perform mechanical work, such as a pump, hoist, mobile equipment etc.

#### **What is does the term “designated” mean?**

Designated means identified, in writing, by the employer.

#### **What are my duties towards machines in the workplace?**

The employer must ensure that a machine operator:

- has the knowledge, training and experience to operate the machine safely
- follows the manufacturer’s or an engineer’s specifications
- does not exceed maximum capacity, speed, depth, working pressure or any other limitations.

Machines must also be maintained by persons with the knowledge, training and experience to do so.

#### **Contact with machines (section 86)**

#### **The equipment is set up so close together that I cannot reach the emergency shut off . Can I still use the equipment?**

No. The employer must ensure that adequate space is provided around any machine while the machine is being:

- Operated; or
- Cleaned, adjusted, repaired or otherwise maintained.

#### **Do I have to tie my hair back when operating machinery?**

A person cannot be near a rotating shaft, spindle, gear, belt or entanglement:

- While wearing any article of clothing or jewellery that presents a hazard; or
- With hair that is not tied back.

#### **Safeguards (section 87)**

#### **What is safe a safeguard?**

A safeguard is a guard, shield, barrier, or other protective closure device.

### **Do all moving parts on a machine or tool need safeguards?**

If a person could come in contact with a moving part, the equipment must have a safeguard. However, if the machine will stop automatically before a person comes into contact with the moving parts, then no other physical barrier is needed.

### **When can I remove a safeguard?**

- If the removal is needed for cleaning, maintenance, adjustment, testing or repair; and
- The machine is locked out; and
- The person replaces the safeguard and ensures it is functioning before leaving the machine.

### **Do machines need safeguards if there is a risk of flying objects?**

Yes, safeguards are required on machines where a flying object could injure someone.

### **The machine I operate has an access door, which can be opened while the machine is running. Is this safe?**

If opening the access door exposes moving parts, the access door must be fitted with interlocks that:

- Prevent the door from opening while parts are in motion; or
- Disconnect the power, causing the machine to stop immediately, if the door is opened.

If the access door cannot be fitted with interlocks, the employer must develop a written work procedure.

### **Starting and stopping machines (sections 88-89)**

#### **The label on the controls have worn off. Do the controls need to be re-labelled?**

Yes, operation controls on a machine must be:

- Located and protected to prevent unintentional activation; and
- Identified to indicate the nature of each control mechanism

#### **From the operator's station, I cannot see all the moving parts of the machine. What precautions need to be taken?**

If there is not a clear view of the machine or its parts from the control panel or operator's station and the moving parts could endanger a person:

- There must be an alarm system installed that gives warning, with a time delay, before the start-up of any machine; and
- The operator of the machine must do a visual inspection of the complete exterior of the machine to ensure no person is endangered by the start-up

### **What is a “hold to operate” device?**

A “Hold to Operate” device is commonly called “a dead man’s switch”. It is a device that automatically shuts off a piece of equipment when pressure on a trigger or similar item is released.

### **Do I need a "hold to operate" switch in a sandblasting nozzle?**

Yes, if a machine or tool is not designed to operate unattended, it must have a "hold to operate" device. This device must start when the device is held in a set position or stop when the device is released.

### **Chainsaws (section 90)**

#### **Do all chainsaws need to have chain brakes?**

Yes, all chainsaws need chain brakes that can stop the chain even though the throttles are open.

#### **Does it matter where the exhaust from a chainsaw goes?**

The exhaust must flow away from the chainsaw and the operator.

#### **What labels must be on a chainsaw?**

The chainsaw must be marked with:

- Manufacturer’s name
- Model # and serial #
- Labels for major controls identifying their use
- Saw classification (i.e. Type 1A)
- Designation of the CSA standard
- For Class 1B and 2B, a warning stating that only certified tree service professionals should use the saw

### **Tire repair and mounting (section 92)**

#### **I am in the process of inflating a split rim tire. What precautions must I take?**

If a split rim or retainer ring type tire is being mounted on a rim and is in the process of being inflated, the employer must provide and the employee must use:

- A safety cage or restraining device
- A clip-on chuck with an adequate length of hose; and
- An in-line hand-operated valve with a gage

Anyone working on a split rim or retainer ring type tire must follow the manufacturer’s specifications.

## **Conveyors (sections 93-96)**

### **What are the requirements for the construction or installation of a conveyor?**

- There must be adequate clearance for the material on the conveyor
- Pinch points must be guarded; and
- The conveyor cannot feed onto a stopped conveyor, unless there is a written work procedure that provides equivalent safety

### **Do emergency stop devices have to be located along a conveyor?**

Yes. Where a person has access to a conveyor, emergency stop devices must be along the conveyor.

### **Can I ride on the conveyor?**

No one can ride on a conveyor or stand on the supporting frame unless the conveyor has been locked out.

### **The conveyor is above my head. Should I be concerned with falling objects?**

If a conveyor is installed at a height that may result in falling objects causing injury, the conveyor must:

- Be equipped with guards or equivalent protection to prevent falling objects; or
- Have barriers that prevent people from being under the conveyor.

### **What should be done to prevent rollbacks?**

If rollback of the load or belts creates a hazard, an anti-rollback device must be installed.

## **Abrasive wheels and grinders (sections 97-100)**

### **How do I know the maximum number of revolutions per minute for an abrasive wheel and a grinder?**

The employer must post on an abrasive wheel and a grinder the maximum number of revolutions per minute of the wheel and the grinder. The maximum number of revolutions per minute must reflect the manufacturer's specifications.

An abrasive wheel can only be used with a grinder when the grinder is rated to have the same or fewer revolutions per minute as the abrasive wheel.

### **Is a protective hood mandatory for bench grinders?**

Yes, a bench grinder must be fitted with a protective hood and side shields.

### **Is a tool rest required for both a bench and a pedestal grinder?**

Yes, a bench or pedestal grinder must have a mounted tool rest within 3mm of the abrasive wheel. (3 mm 1/8 in)

### **What else should I know about abrasive wheels and grinders?**

Unless the manufacturer's specifications say it is safe no person may:

- Grind on the side of an abrasive wheel; or
- Adjust a tool rest while the abrasive wheel is in motion

### **Compressed air used for cleaning (section 101)**

#### **Can I use compressed air to clean a surface or a person?**

Yes, compressed air can be used to clean a surface or a person, if the device used to deliver the air is:

- Commercially manufactured and approved in the manufacturer's specifications for the purpose of cleaning a surface or person; or
- Certified by an engineer as adequate for the purpose of cleaning a surface or person.

### **Space heat equipment (sections 102-103)**

#### **What precautions do I need to take with space heating?**

The employer must set up and maintain temporary space heating equipment in such a way as to prevent fires.

If a combustible fuel powers the space heating equipment, the employer must ensure that:

- The equipment is located on the ground or above a non-combustible floor of appropriate thickness to prevent a fire; or
- If located above a combustible floor, the heater is separated from the floor by 75mm (75 mm in) of non-combustible material covered by sheet metal extending 600 mm (600 mm ft) in beyond the heater on each side.