

**Powered Mobile Equipment**

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EQUIPMENT, GENERAL

**93.** (1) All vehicles, machinery, tools and equipment shall be maintained in a condition that does not endanger a worker. O. Reg. 213/91, s. 93 (1).

(2) No vehicle, machine, tool or equipment shall be used,

(a) while it is defective or hazardous;

(b) when the weather or other conditions are such that its use is likely to endanger a worker; or

(c) while it is being repaired or serviced, unless the repair or servicing requires that it be operated. O. Reg. 213/91, s. 93 (2); O. Reg. 145/00, s. 25 (1).

(3) All vehicles, machines, tools and equipment shall be used in accordance with any operating manuals issued by the manufacturers. O. Reg. 145/00, s. 25 (2).

(4) For vehicles, machines, tools and equipment rated at greater than 10 horsepower, copies of any operating manuals issued by the manufacturers shall be kept readily available at the project. O. Reg. 145/00, s. 25 (2).

**94.** (1) All mechanically-powered vehicles, machines, tools and equipment rated at greater than 10 horsepower shall be inspected by a competent worker to determine whether they can handle their rated capacity and to identify any defects or hazardous conditions. O. Reg. 145/00, s. 26.

(2) The inspections shall be performed before the vehicles, machines, tools or equipment are first used at the project and thereafter at least once a year or more frequently as recommended by the manufacturer. O. Reg. 145/00, s. 26.

**95.** (1) Every replacement part for a vehicle, machine, tool or equipment shall have at least the same safety factor as the part it is replacing. O. Reg. 213/91, s. 95 (1).

(2) No modification to, extension to, repair to or replacement of a part of a vehicle, machine, tool or equipment shall result in a reduction of the safety factor of the vehicle, machine, tool or equipment. O. Reg. 213/91, s. 95 (2).

**96.** (1) No worker shall operate a vehicle at a project unless he or she is competent to do so. O. Reg. 145/00, s. 26.

(2) However, a worker being trained in the operation of a vehicle may operate it while being instructed and supervised by a competent person. O. Reg. 145/00, s. 26.

**97.** (1) Every vehicle other than a trailer shall be equipped with brakes and a seat or other place for the vehicle operator. O. Reg. 213/91, s. 97 (1).

(2) No person other than the operator shall ride on a vehicle unless a seat is provided for the use of, and is used by, the person. O. Reg. 213/91, s. 97 (2).

**98.** The means of access to any operator's station in a vehicle, machine or equipment shall not endanger the operator and shall have skid-resistant walking, climbing and work surfaces. O. Reg. 213/91, s. 98.

**99.** A cab or screen shall be provided to protect a worker who is exposed to an overhead hazard while operating a vehicle. O. Reg. 213/91, s. 99.

**100.** (1) No vehicle, machine or equipment shall be drawn or towed by another vehicle on a project unless there are two separate means of attachment to the vehicle drawing or towing it. O. Reg. 213/91, s. 100 (1).

(2) Subsection (1) does not apply with respect to a vehicle being drawn or towed in which there is an operator and that has brakes that are able to stop the vehicle with its load, if any. O. Reg. 213/91, s. 100 (2).

(3) Each means of attachment referred to in subsection (1) shall be constructed and attached in such a way that the failure of one means of attachment does not permit the vehicle, machine or equipment being drawn or towed to become detached from the other vehicle. O. Reg. 213/91, s. 100 (3).

**101.** (1) No worker shall remain on or in a vehicle, machine or equipment while it is being loaded or unloaded if the worker might be endangered by remaining there. O. Reg. 213/91, s. 101 (1).

(2) Such action as may be necessary to prevent an unattended vehicle, machine or equipment from being started or set in motion by an unauthorized person shall be taken. O. Reg. 213/91, s. 101 (2).

(3) An unattended vehicle, machine or equipment shall have its brakes applied and its wheels blocked to prevent movement when the vehicle, machine or equipment is on sloping ground or is adjacent to an excavation. O. Reg. 213/91, s. 101 (3).

**102.** No operator shall leave unattended the controls of,

- (a) a front-end loader, backhoe or other excavating machine with its bucket raised;
- (b) a bulldozer with its blade raised;
- (c) a fork-lift truck with its forks raised; or
- (d) a crane or other similar hoisting device with its load raised. O. Reg. 213/91, s. 102.

**103.** (1) No worker shall operate a shovel, backhoe or similar excavating machine in such a way that it or part of its load passes over a worker. O. Reg. 213/91, s. 103 (1).

(2) No worker shall operate a crane or similar hoisting device in such a way that part of its load passes over another worker unless the other worker is receiving the load or is engaged in sinking a shaft. O. Reg. 213/91, s. 103 (2).

(3) If practicable, a worker who is receiving a load or is engaged in sinking a shaft shall be positioned so that no load or part of a load carried by a crane or similar hoisting device passes over the worker. O. Reg. 213/91, s. 103 (3).

(4) Subsections (2) and (3) do not apply in respect of a multi-tiered load as defined in section 103.1 if written procedures have been developed and implemented for the particular project in accordance with that section. O. Reg. 627/05, s. 2.

**103.1** (1) In this section,

“move” includes raise and lower;

“multi-tiered load” means two or three individually rigged structural steel pieces that are,

- (a) suspended so that they remain horizontal,
- (b) aligned vertically, and
- (c) moved simultaneously by a crane;

“multi-tiered load hoisting operation” means the moving of one or more multi-tiered loads by one crane at a project;

“procedures” means the procedures prepared under subsection (7). O. Reg. 627/05, s. 3.

1 A multi-tiered load,

- (6) shall not contain structural steel pieces that are bundled together;
- (7) shall not contain more than three structural steel pieces;
- (8) shall not use one structural steel piece to support another;
- (9) shall have each structural steel piece independently slung back to the main load hook or master link;
- (10) shall be lowered only by a crane using power-controlled lowering. O. Reg. 627/05, s. 3.

2 A crane shall be used to move only one multi-tiered load at a time. O. Reg. 627/05, s. 3.

3 A crane shall not be used for a multi-tiered load if it is contrary to the crane manufacturer’s specifications or limitations to do so. O. Reg. 627/05, s. 3.

4 No worker shall be in an area where a multi-tiered load hoisting operation is taking place unless he or she is directly engaged in the operation. O. Reg. 627/05, s. 3.

5 Before a multi-tiered load hoisting operation is begun at a project, written procedures to ensure the safety of workers engaged in the operation shall be developed and implemented. O. Reg. 627/05, s. 3.

(7) The procedures shall be prepared by a professional engineer in accordance with good engineering practice and shall,

- (a) include design drawings that illustrate the arrangement and dimensions of the structural steel pieces, the assembly of rigging components and devices, and all attachment points;
- (b) identify the crane and its rated load-carrying capacity, and identify and specify its limitations and restrictions, if any;
- (c) describe the method of determining the weight of the structural steel pieces;
- (d) specify the maximum load per lift and the maximum reach of the crane per lift;
- (e) identify all factors that could affect the safety of the multi-tiered load hoisting operation, such as wind speed, weather conditions, potential overlapping of cranes and other restrictions;
- (f) state the measures to be taken to control and secure multi-tiered loads while they are being moved;
- (g) specify any circumstances that would require additional work, including inspections, to be performed by a professional engineer to ensure the safety of any worker engaged in the multi-tiered load hoisting operation; and
- (h) identify all critical parts of the rigging and the rigged structural steel pieces that are to be inspected before each lift, and set out the inspection criteria to be followed. O. Reg. 627/05, s. 3.

(8) The employer responsible for a multi-tiered load hoisting operation shall,

- (a) create a document that identifies the workers engaged in the multi-tiered load hoisting operation by name and job title and states their respective duties;
- (b) ensure that, before the multi-tiered load hoisting operation is begun, a copy of the procedures is provided to and reviewed with each worker engaged in the operation;
- (c) ensure that the procedures are implemented, and are followed throughout the multi-tiered load hoisting operation;
- (d) ensure that any deviations from the procedures are approved by a professional engineer, in writing, before any multi-tiered load is moved; and
- (e) unless the professional engineer who prepared the procedures specifies otherwise, appoint a competent worker to ensure that the procedures, including the inspections described in clause (7) (h), are followed before any multi-tiered load is moved. O. Reg. 627/05, s. 3.

(9) The employer responsible for a multi-tiered load hoisting operation shall keep a copy of the following available for inspection at the project until the operation is completed:

1. The procedures.
2. The document described in clause (8) (a).
3. Any approvals given under clause (8) (d). O. Reg. 627/05, s. 3.

(10) Before the first multi-tiered load hoisting operation is started at a project, the constructor shall give notice to the Ministry office located nearest the project, in person, by telephone, by fax or by electronic means. O. Reg. 627/05, s. 3.

**104.** (1) Every project shall be planned and organized so that vehicles, machines and equipment are not operated in reverse or are operated in reverse as little as possible. O. Reg. 145/00, s. 27.

(2) Vehicles, machines and equipment at a project shall not be operated in reverse unless there is no practical alternative to doing so. O. Reg. 145/00, s. 27.

(3) Operators of vehicles, machines and equipment shall be assisted by signallers if either of the following applies:

1. The operator's view of the intended path of travel is obstructed.
2. A person could be endangered by the vehicle, machine or equipment or by its load. O. Reg. 145/00, s. 27.

(4) Subsection (3) also applies to shovels, backhoes and similar excavating machines and to cranes and similar hoisting devices. O. Reg. 145/00, s. 27.

(5) The operator and the signaller shall,

- (a) jointly establish the procedures by which the signaller assists the operator; and
- (b) follow those procedures. O. Reg. 145/00, s. 27.

(6) If subsection (3) applies to the project and it is not possible to carry out the project without some operation of vehicles and equipment in reverse, signs shall be posted at the project in conspicuous places warning workers of the danger. O. Reg. 145/00, s. 27.

**105.** A dump truck shall be equipped with an automatic audible alarm that signals when the truck is being operated in reverse. O. Reg. 145/00, s. 27.

**106.** (1) A signaller shall be a competent worker and shall not perform other work while acting as a signaller. O. Reg. 213/91, s. 106 (1).

(1.1) The signaller shall wear a garment that covers at least his or her upper body and has the following features:

1. The garment shall be fluorescent blaze or international orange in colour.
2. On the front and the back, there shall be two yellow stripes that are 5 centimetres wide. The yellow area shall total at least 500 square centimetres on the front and at least 570 square centimetres on the back.

3. On the front, the stripes shall be arranged vertically and centred and shall be approximately 225 millimetres apart, measured from the centre of each stripe. On the back, they shall be arranged in a diagonal "X" pattern.

4. The stripes shall be retro-reflective and fluorescent. O. Reg. 145/00, s. 28.

(1.2) If the garment is a vest, it shall have adjustable fit. O. Reg. 145/00, s. 28.

(1.3) On and after January 1, 2001, a nylon vest to which this section applies shall also have a side and front tear-away feature. O. Reg. 145/00, s. 28.

(1.4) In addition, a signaller who may be endangered during night-time hours shall wear retro-reflective silver stripes encircling each arm and leg, or equivalent side visibility-enhancing stripes with a minimum area of 50 square centimetres per side. O. Reg. 145/00, s. 28.

(1.5) The employer shall,

(a) ensure that the signaller has received adequate oral training in his or her duties and has received adequate oral and written instructions in a language that he or she understands; and

(b) keep the written instructions at the project. O. Reg. 145/00, s. 28.

(2) A signaller,

(a) shall be clear of the intended path of travel of the vehicle, machine or equipment, crane or similar hoisting device, shovel, backhoe or similar excavating machine or its load;

(b) shall be in full view of the operator of the vehicle, machine or equipment, crane or similar hoisting device, shovel, backhoe or similar excavating machine;

(c) shall have a clear view of the intended path of travel of the vehicle, machine or equipment, crane or similar hoisting device, shovel, backhoe or similar excavating machine or its load; and

(d) shall watch the part of the vehicle, machine or equipment or crane or similar hoisting device, shovel, backhoe or similar excavating machine or its load whose path of travel the operator cannot see. O. Reg. 213/91, s. 106 (2).

(3) The signaller shall communicate with the operator by means of a telecommunication system or, where visual signals are clearly visible to the operator, by means of prearranged visual signals. O. Reg. 213/91, s. 106 (3).

**107.** No worker shall use as a work place a platform, bucket, basket, load, hook or sling that is capable of moving and that is supported by a fork-lift truck, front-end loader or similar machine. O. Reg. 213/91, s. 107.

**108.** Blocking shall be installed to prevent the collapse or movement of part or all of a piece of equipment that is being dismantled, altered or repaired if its collapse or movement may endanger a worker. O. Reg. 213/91, s. 108.

**109.** Every gear, pulley, belt, chain, shaft, flywheel, saw and other mechanically-operated part of a machine to which a worker has access shall be guarded or fenced so that it will not endanger a worker. O. Reg. 213/91, s. 109.

**110.** (1) Safety chains, cages or other protection against blown-off side or lock rings shall be used when inflating a tire mounted on a rim. O. Reg. 213/91, s. 110 (1).

(2) If a cage is used, the tire shall be inflated by remote means. O. Reg. 213/91, s. 110 (2).

**111.** (1) A lifting jack shall have its rated capacity legibly cast or stamped on it in a place where it can be readily seen. O. Reg. 213/91, s. 111 (1).

(2) A lifting jack shall be equipped with a positive stop to prevent overtravel or, if a positive stop is not practicable, with an overtravel indicator. O. Reg. 213/91, s. 111 (2).