Powered Mobile Equipment Requirements – Know The Laws of Your Province

Powered mobile equipment like forklifts, agricultural tractors, aerial lift platforms, excavators, loaders, skid steers, backhoes, motor graders, and tree harvesters are a frequent cause of workplace fatalities and serious injuries. It's also one of the most heavily regulated aspects of workplace safety. OHS laws set out extensive requirements for powered mobile equipment, including with regard to:

- The standards to which it must be designed.
- The safety devices and equipment it must have—rollover protective structures, seat belts, horns, lighting, etc.
- The qualifications a worker must have to operate it.
- How the equipment must be inspected, maintained, and serviced.
- How it may be operated.

Here's a look at the specific OHS requirements for powered mobile equipment in each part of Canada.

FEDERAL

Construction & Design

1. Motorized materials hazardous conditions, if feasible, be designed and constructed so that a failure of any part doesn't

result in loss of control of the equipment or create a hazardous condition (OHS Regs, Sec. 14.3(1)).

2. All glass and other transparent materials used in doors, windows and other parts of motorized materials handling equipment must be of a type that doesn't shatter into sharp or dangerous pieces on impact (OHS Regs, Sec. 14.3(2)).

3. Employer must ensure that the onboard operator's compartment in, or position on, motorized materials handling equipment provides adequate adjustability of range to accommodate properly the operator for the work required to be done (OHS Regs, Sec. 14.3(3)).

4. If there's a risk that the on board operator of the equipment could be struck by a falling object or shifting load, the employer must equip the motorized materials handling equipment with a protective structure of such a design, construction, and strength that it will, under all foreseeable conditions, prevent the penetration of the object or load into the compartment or position occupied by the operator; Exception: The previous requirement doesn't apply to a motorized hand-rider truck unless there's a risk of its operator being struck by a falling object or shifting load (OHS Regs, Secs. 14.4(1) + (2)).

5. A protective structure referred to in Item #4 must be constructed of non-combustible or fire-resistant material, and designed to permit quick exit from the motorized materials handling equipment in an emergency (OHS Regs, Sec. 14.4(3)).

6. If there's a risk that materials, goods or things could shift and endanger employees in a motor vehicle acquired after July 1, 1995 and having a gross vehicle weight of less than 4 500 kg, the employer must install a bulkhead or other means to protect the employees (OHS Regs, Sec. 14.4(4)).

7. Motorized materials handling equipment used in circumstances where it may turn over must be fitted with a

rollover protection device that meets CSA Standard B352-M1980, seatbelts, and restraining devices preventing the displacement of the battery if the equipment turns over (OHS Regs, Sec. 14.6).

8. Where motorized materials handling equipment is used under conditions where a seatbelt or shoulder-type strap restraining device is likely to contribute to the safety of the operator or passengers, it must be equipped with such a belt or device (OHS Regs, Sec. 14.7).

9. If a fuel tank, compressed gas cylinder or other container or any associated assembly mounted on motorized materials handling equipment contains a hazardous substance, the employer must ensure that the tank, cylinder, container or assembly is:

a. Located or guarded that under all conditions it’s not hazardous to the health or safety of an employee required to operate or ride on the equipment.

b. Connected to fuel overflow and vent pipes that are so located that fuel spills and vapours can’t be: i. ignited by hot exhaust pipes or other hot or sparking parts, or ii. hazardous to the health or safety of an employee who is required to operate or ride on the equipment.

c. Labelled on its servicing caps or covers as to its contents (OHS Regs, Sec. 14.8(1)).

10. Installation, operation, and maintenance of propane fueled motorized materials handling equipment must meet Canadian Gas Association Standard CAN/CGA-B149.2-M91, Propane Installation Code, dated 1991, as amended from time to time (OHS Regs, Sec. 14.8(2)).

11. Motorized materials handling equipment that’s regularly used outdoors must be fitted with a roof or other structure that protects the operator from exposure to any hazardous

weather condition (OHS Regs, Sec. 14.9(1)).

12. Where the heat produced by motorized materials handling equipment results in a temperature above 26°C in the compartment or position occupied by that operator, the area must be protected from the heat by an insulated barrier (OHS Regs, Sec. 14.9(2)).

13. Employer must ensure that all motorized materials handling equipment in use is designed and constructed so that any employee required to operate or ride on it isn't injured or its control isn't impaired by any vibration, jolting or uneven movement of the equipment (OHS Regs, Sec. 14.10(1)).

14. The design and arrangement of displays and controls and the design and layout of the operator's compartment or position on all motorized materials handling equipment must not hinder or prevent its operator from operating the equipment and must, if feasible, maximize its operator's ability to collect, comprehend and process information necessary for the safe use of the equipment (OHS Regs, Sec. 14.11).

15. Employer must equip motorized materials handling equipment used for transporting or handling flammable substances with a dry chemical fire extinguisher that:

    a. Has at least a 5 B, C rating as defined in the National Fire Code.

    b. Meets the standards of section 6.2 of the National Fire Code.

    c. Located that it's readily accessible to the operator while the operator is in the operating position (OHS Regs, Sec. 14.12).

16. Employer must ensure that all motorized materials handling equipment has a safe means of entering and exiting the work

area of the operator, and any other place on the equipment to which an employee requires regular access (OHS Regs, Sec. 14.13).

17. Motorized materials handling equipment used by an employee in a work place at night or at any time when the level of lighting within the work place is less than 10 lx must be fitted with warning lights on the front and rear that are visible from a distance of not less than 100 m; and lighting that ensures the safe operation of the equipment (OHS Regs, Sec. 14.14(1)).

18. All motorized materials handling equipment must be fitted with braking, steering and other control systems that:

    a. Are capable of controlling and stopping its movement and that of any hoist, bucket or other part of the equipment.

    b. Respond reliably and quickly to moderate effort on the part of the employee controlling them (OHS Regs, Sec. 14.15).

19. Motorized materials handling equipment that is used in an area occupied by employees and that travels:

    a. Forward at speeds in excess of 8 km/h must be fitted with a horn or other similar audible warning device.

    b. In reverse must be fitted with a horn or other similar audible warning device that automatically operates while it travels in reverse (OHS Regs, Sec. 14.16(1)).

20. If the audible warning device can’t be clearly heard above the noise of the motorized materials handling equipment and any surrounding noise, doesn’t allow enough time for a person to avoid the danger in question or otherwise provide adequate warning, other visual, audible or tactile warning devices or methods must be used so that adequate warning is provided (OHS Regs, Sec. 14.16(2)).

21. Where motorized materials handling equipment can’t be operated safely in reverse unless it is fitted with sufficient rear-view mirrors, it must be so fitted (OHS Regs, Sec. 14.17).

Maintenance, Use, & Operation

22. Before motorized or manual materials handling equipment is used for the first time in a workplace, the employer must set out in writing instructions on the inspection, testing, and maintenance of the equipment that specify the nature and frequency of inspections, testing, and maintenance (OHS Regs, Secs. 14.20(1) + (2)).

23. The inspection, testing, and maintenance must be performed by a qualified person who complies with the instructions referred to in Item #22 above, and makes and signs a report of each inspection, test, or maintenance work performed that:

a. Lists the date of the inspection, testing or maintenance performed by the qualified person.

b. Identify the equipment that was inspected, tested or maintained.

c. Sets out the safety observations of the qualified person (OHS Regs, Sec. 14.20 Secs. (3) + (4)).

24. The employer must keep at the workplace at which the motorized or manual materials handling equipment is located a copy of:

a. The instructions referred to in Item #22 above for as long as the materials handling equipment is in use.

b. The report referred to in Item #23 above for a period of one year after the report is signed (OHS Regs, Sec. 14.20(5)).

25. Every employer whose employees maintain or repair

motorized materials handling equipment equipped with split rim wheels must set out in writing instructions for those employees on the maintenance and repair of those wheels that includes instructions on training, inspection, installation, guarding, compatibility of parts used, and repairs relating to the assembling and disassembling of split rim wheels, and keep a copy of the instructions at the work place in which the motorized materials handling equipment is kept for as long as the equipment is in use (OHS Regs, Sec. 14.22).

Instruction & Training

26. Employer must ensure that every operator of motorized materials handling equipment has been instructed and trained in the procedures to be followed for its inspection, fueling, and safe and proper use, in accordance with any instructions provided by the manufacturer and taking into account the conditions of the work place in which the operator will operate the equipment; Exception: This requirement doesn't apply to an employer with respect to an operator who, under the direct supervision of a qualified person, is being instructed and trained in the use of motorized materials handling equipment or in the procedures referred to in that subsection (OHS Regs, Sec. 14.23).

27. Employer must keep a written record, in respect of an operator, of any instruction or training referred to in Item #26 for as long as the operator remains in the employer's employment (OHS Regs, Sec. 14.23(4)).

28. No employer may require an employee to operate motorized or manual materials handling equipment unless the employee:

a. Is an operator.
b. Where the laws of the province in which the equipment is operated require an operator's license, possesses an operator's license issued by any province (OHS Regs, Sec. 14.24).

Signals

29. No employer may require an operator to operate motorized materials handling equipment unless the operator is either directed by a signaler or has an unobstructed view of the area in which the equipment is to be operated (OHS Regs, Sec. 14.25).

30. Every employer who wishes to use signals to direct the movement of motorized materials handling equipment must establish a single code of signals to be used by signalers in all of the employer's workplaces (OHS Regs, Sec. 14.26(1)).

31. Signals from the code must be given by a signaler, who may use only those signals (OHS Regs, Sec. 14.26(2)).

32. A signal to stop given by any person granted access to the workplace by the employer must be obeyed by an operator (OHS Regs, Sec. 14.26(3)).

33. No signaler may perform duties other than signaling while the motorized materials handling equipment under the signaler's direction is in operation (OHS Regs, Sec. 14.26(4)).

34. If any movement of motorized materials handling equipment that's directed by a signaler poses a risk to the safety of any person, the signaler must not give the signal to move until that person is warned of, or protected from, the risk (OHS Regs, Sec. 14.26(5)).

35. Where the operator of any motorized materials handling equipment does not understand a signal, the operator must consider that signal to be a stop signal (OHS Regs, Sec. 14.26(6)).

36. Where the use by a signaler of visual signals will not be an effective means of communication, the employer must provide the signaler and the operator a telephone, radio or other

audible signaling device (OHS Regs, Sec. 14.27(1)).

37. Where a signaling device referred to in subsection (1) functions unreliably or improperly and the operation of any motorized materials handling equipment can’t be safely directed by another means of signaling, use of the motorized materials handling equipment must be discontinued until the signaling device is repaired or replaced (OHS Regs, Sec. 14.27(3)).

38. If an employee finds any defect in radio transmitting signaling equipment that may render it unsafe for use, they must report the defect to their employer as soon as feasible (OHS Regs, Sec. 14.27(4)).

39. No employee may operate and no employer may permit an employee to operate motorized materials handling equipment on a ramp with a gradient in excess of the lesser of:

a. The gradient recommended as safe by the manufacturer of the motorized materials handling equipment, either loaded or unloaded, as applicable.
b. Such gradient as a qualified person determines to be safe, having regard to the mechanical condition of the motorized materials handling equipment and its load and traction (OHS Regs, Sec. 14.28).

Repairs

40. Motorized or manual materials handling equipment that creates a health or safety hazard owing to a defect in the materials handling equipment must be taken out of service until it’s repaired or modified by a qualified person (OHS Regs, Sec. 14.29(1)).

41. Any repair, modification, or replacement of a part of any motorized or manual materials handling equipment must at least maintain the safety factor of the materials handling equipment or part (OHS Regs, Sec. 14.29(2)).

42. If a part of less strength or quality than the original part is used in the repair, modification, or replacement of a part of any motorized or manual materials handling equipment, the employer must restrict the use of the materials handling equipment to such loading and use as will ensure the retention of the original safety factor of the equipment or part (OHS Regs, Sec. 14.29(3)).

43. Employer must keep a record of any repair or modification referred to in Item #40 above and of any restriction on use imposed under Item #42 (OHS Regs, Sec. 14.29(4)).

Transporting & Positioning Employees

44. Motorized or manual materials handling equipment may not be used for transporting an employee and no employee may so use the equipment unless it’s specifically designed for that purpose (OHS Regs, Sec. 14.30(1)).

45. Motorized or manual materials handling equipment may not be used for hoisting or positioning an employee, unless the equipment is equipped with a platform, bucket, or basket designed for those purposes (OHS Regs, Sec. 14.30(2)).

46. Any motorized materials handling equipment normally used for transporting employees from place to place in a workplace must be equipped with a mechanical parking brake; and a hydraulic or pneumatic braking system (OHS Regs, Sec. 14.30(3)).

Loading, Unloading, & Maintenance

47. No materials, goods or things may be picked up from, or placed on, any motorized or manual materials handling equipment while the equipment is in motion unless the equipment is specifically designed for that purpose (OHS Regs, Sec. 14.31).

48. No employee may get on or off of motorized or manual

materials handling equipment while it is in motion, except in an emergency (OHS Regs, Sec. 14.32).

49. No repair, maintenance or cleaning work may be performed on motorized or manual materials handling equipment while the materials handling equipment is in use (OHS Regs, Sec. 14.33(1)).

50. Exception: Fixed parts of motorized or manual materials handling equipment may be repaired, maintained or cleaned while the materials handling equipment is being used if the parts are so isolated or guarded that the use of the materials handling equipment doesn’t present a risk to the safety of the employee performing the repair, maintenance or cleaning work (OHS Regs, Sec. 14.33(2)).

Positioning the Load

51. If motorized or manual materials handling equipment is travelling with a raised or suspended load, its operator must ensure that the load is carried as close as possible to the ground or floor and must not in any case transport the load at or beyond the point at which the loaded equipment becomes unstable (OHS Regs, Sec. 14.33(1)).

52. Any load, other than bulk materials, that would likely slide on or fall from motorized or manual materials handling equipment resulting in a hazardous condition must be secured to prevent such movement (OHS Regs, Sec. 14.33(2)).

Other Requirements

53. The floor, cab, and other occupied parts of motorized materials handling equipment must be kept free of any grease, oil, materials, tools, equipment, or other hazards that may cause an employee to slip or trip or may create a fire hazard or otherwise interfere with the safe operation of the equipment (OHS Regs, Sec. 14.36).

54. Tools, toolboxes, or spare parts that are carried on motorized or manual materials handling equipment must be securely stored (OHS Regs, Sec. 14.35).

55. No motorized or manual materials handling equipment may be parked in a corridor, aisle, doorway, or other place where it may interfere with the safe movement of people, materials, goods, or things (OHS Regs, Sec. 14.37(1)).

56. Where motorized or manual materials handling equipment is required to enter or exit a vehicle other than a railway car to load or unload materials, goods, or things to or from the vehicle, the vehicle must be immobilized and secured against accidental movement, by means additional to the vehicle's braking system (OHS Regs, Sec. 14.37(2)).

57. Where motorized or manual materials handling equipment is required to enter or exit a railway car to load or unload materials, goods, or things to or from the railway car, the railway car must be immobilized (OHS Regs, Sec. 14.37(3)).

58. Any motorized materials handling equipment that's left unattended must be immobilized against accidental movement, by applying a parking brake or other braking device (OHS Regs, Sec. 14.37(4)).

59. No motorized or manual materials handling equipment may be used in an area in which it may contact an electrical cable, a pipeline containing a hazardous substance or any other hazard known to the employer, unless the employer has informed the operator of the presence and location of the hazard and of the safety clearance that the operator must maintain (OHS Regs, Sec. 14.39(1)).

60. Where an employer is unable to determine with reasonable certainty the location of an electrical cable or a pipeline containing a hazardous substance, the electrical cable must be de-energized or the pipeline shut down and drained before any activity involving the use of motorized materials handling

equipment commences within the area of possible contact with the electrical cable or the pipeline (OHS Regs, Sec. 14.39(2)).

61. If rear-dumping motorized materials handling equipment is used to discharge a load at the edge of a sudden drop in grade level that may cause the equipment to tip and to prevent the motorized materials handling equipment from tipping, a bumping block must be used, or a signaler must give directions to the operator of the equipment (OHS Regs, Sec. 14.40).

62. Where motorized materials handling equipment is fueled in a workplace, a qualified person must do the fueling in accordance with procedures referred to in Item #26 above in a place that's well-ventilated so that the vapours from the fuel will be dissipated quickly (OHS Regs, Sec. 14.41).

63. Motorized or manual materials handling equipment must be legibly marked with sufficient information so as to enable the operator to determine its safe working load (OHS Regs, Sec. 14.43(1)).

64. No motorized or manual materials handling equipment may be used with a load that exceeds its safe working load (OHS Regs, Sec. 14.43(2)).

65. An employer must provide a clearly marked pathway for the exclusive use of pedestrians and persons using wheelchairs and other similar devices that is not less than 750 mm wide along one side of an aisle, corridor, or other course of travel that is found in a workplace and that is a principal traffic route for mobile equipment, pedestrians, and persons using wheelchairs and other similar devices; and exceeds 15 m in length, UNLESS a signaler or traffic lights are provided for the purpose of controlling traffic and protecting persons (OHS Regs, Sec. 14.44(1) + (2)).

66. If an aisle, corridor or other course of travel that's a principal traffic route in a workplace intersects with another

route, an employer must cause warning signs marked with the words “DANGEROUS INTERSECTION – CROISEMENT DANGEREUX”, in letters not less than 50 mm in height on a contrasting background, to be posted along the approaches to the intersection (OHS Regs, Sec. 14.44(3)).

67. At blind corners, mirrors must be installed that permit a mobile equipment operator to see a pedestrian, a person using a wheelchair or other similar device, a vehicle or mobile equipment approaching the blind corner (OHS Regs, Sec. 14.44(4)).

68. In any passageway regularly travelled by motorized or manual materials handling equipment, the employer must ensure that:

a. An overhead clearance is at least 150 mm above:

i. That part of the materials handling equipment or its load that is the highest when the materials handling equipment is in its highest normal operating position at the point of clearance.

ii. The top of the head of the operator or any other employee required to ride on the materials handling equipment when occupying the highest normal position for the operator or employee at the point of clearance.

b. A side clearance is sufficiently wide to permit the motorized or manual materials handling equipment and its load to be maneuvered safely by an operator, but in no case less than 150 mm on each side measured from the furthest projecting part of the equipment or its load, when the equipment is being operated in a normal manner (OHS Regs, Sec. 14.45(1)).

69. Where an overhead clearance measured in accordance with the above is less than 300 mm, the employer must cause:

a. The top of the doorway or object that restricts the clearance to be marked with a distinguishing colour or mark.
b. The height of the passageway in metres to be shown near the top of the passageway in letters no less than 50 mm in height and are on a contrasting background (OHS Regs, Sec. 14.45(2)).

ALBERTA

1. “Powered mobile equipment” (PME) defined as a self propelled machine or combination of machines, including a prime mover or a motor vehicle, designed to manipulate or move material or to provide a powered aerial device for workers (OHS Code, Sec. 1).
2. Workers must not operate PME unless:

a. They’re trained to safely operate the equipment.
b. They’ve demonstrated competency in operating the equipment to a competent worker designated by the employer.
c. They’re familiar with the equipment’s operating instructions.
d. They’re authorized by the employer to operate the equipment (OHS Code, Sec. 256(1)).

3. Exception: Items a, b, and c above don’t apply if a worker in training operates the equipment under the direct supervision of a competent worker designated by the employer (OHS Code, Sec. 256(2)).
4. The operator of PME must:

a. Report to the employer any conditions affecting the safe operation of the equipment.
b. Operate the equipment safely.
c. Maintain full control of the equipment at all times.
d. Use the seat belts and other safety equipment in the PME and ensure that passengers do likewise.
e. Keep the cab, floor, and deck of the PME free of

materials, tools, or other objects that could interfere with the operation of the controls or create a tripping or other hazard to the operator or other occupants of the equipment (OHS Code, Sec. 256(3)).

5. Before operating PME, the operator must complete a visual inspection of the equipment and surrounding area to ensure that the PME is in safe operating condition and that no worker, including the operator, is endangered when the equipment is started up (OHS Code, Sec. 257(1)).
6. While PME is in operation, the operator must complete a visual inspection of the equipment and surrounding area at the intervals required by the manufacturer's specifications or, in the absence of manufacturer's specifications, the employer's operating procedures (OHS Code, Sec. 257(2)).
7. Despite Items #5 and #6, if the PME is continuously operated as part of an ongoing work operation, the operator may visually inspect the equipment during the work shift or work period as required by the employer's operating procedures (OHS Code, Sec. 257(3)).
8. A person must not start PME if the visual inspection under Item #5 is not completed (OHS Code, Sec. 257(4)).
Dangerous Movement
9. If the movement of a load or the cab, counterweight or any other part of PME creates a danger to workers:

a. An employer must not permit a worker to remain within range of the moving load or part.
b. The operator must not move the load or the equipment if a worker is exposed to the danger (OHS Code, Sec. 258(1)).

10. If the movement of a load or the cab, counterweight or any other part of PME creates a danger to workers, a worker must not remain within range of the moving load or part (OHS Code, Sec. 258(2)).
11. If a worker could be caught between a moving part of a unit of PME and another object, an employer must either restrict entry to the area by workers, or require workers to

maintain a clearance distance of at least 600 millimetres between the PME and the object (OHS Code, Sec. 258(3)).

Pedestrian Traffic

12. Employer must ensure that, if reasonably practicable, walkways are designated that separate pedestrian traffic from areas where powered mobile equipment is operating, and that workers use the designated walkways (OHS Code, Sec. 259(1)).

13. If it’s not reasonably practicable to use designated walkways, an employer must ensure that safe work procedures are used to protect workers who enter areas where PME is operating (OHS Code, Sec. 259(2)).

Inspection & Maintenance

14. Employer must ensure that PME is inspected by a competent worker for defects and conditions that are hazardous or may create a hazard and that inspection is in accordance with the manufacturer’s specifications (OHS Code, Sec. 260(1) + (2)).

15. If the inspection indicates that PME is hazardous or potentially hazardous, employer must ensure that:

a. The health and safety of a worker who may be exposed to the hazard is protected immediately.
b. The PME is not operated until the defect is repaired or the condition is corrected.
c. The defect is repaired or the unsafe condition corrected as soon as reasonably practicable (OHS Code, Sec. 260(3)).

16. If an inspection finds that the PME is potentially hazardous but the equipment can be operated safely, an employer must ensure that the operator is made aware of the potential hazard, and the defect or condition is repaired as soon as reasonably practicable (OHS Code, Sec. 260(4)).

17. Employer must ensure that a record of the inspections and maintenance carried out is kept at the work site and readily available to a worker who operates the PME (OHS Code, Sec. 260(5)).

18. Employer must ensure that if elevated parts of PME are being maintained or repaired by workers, the parts and the PME

are securely blocked in place and can’t move accidentally (OHS Code, Sec. 261).

Starting Engines

19. Employer must ensure that a worker doesn’t start the power unit of PME if the drive mechanisms and clutches of the equipment are engaged (OHS Code, Sec. 262(1)).

20. Employer must ensure that no worker, including the operator, can be injured due to the movement of PME or any part of it, if:

a. Its power unit can be started from a location other than the equipment’s control platform or cab seat.
b. It’s not reasonably practicable to disengage its drive mechanism or clutches (OHS Code, Sec. 262(3)).

Unattended Equipment

21. A person must not leave the controls of PME unattended unless the equipment is secured against unintentional movement by an effective method of immobilizing the equipment (OHS Code, Sec. 263(1)).

22. A person must not leave the controls of PME unattended unless a suspended or elevated part of the PME is either landed, secured in a safe position or both (OHS Code, Sec. 263(2)).

PME Design & Construction

23. Employer must ensure that powered mobile equipment operated during hours of darkness or when, due to insufficient light or unfavourable atmospheric conditions, workers and vehicles are not clearly discernible at a distance of at least 150 metres is equipped with lights that illuminate a direction in which the equipment travels, the working area around the equipment, and the control panel of the equipment (OHS Code, Sec. 264(1)).

24. Employer must ensure that the lights on earthmoving construction machinery installed on or after July 1, 2009 meets SAE Standard J1029 (2007) (OHS Code, Sec. 264(2)).

25. Employer must ensure that glazing used as part of the

enclosure for a cab, canopy or rollover protective structure on PME is safety glass or another non shattering material providing at least equivalent protection (OHS Code, Sec. 265(1)).

26. Employer must ensure that the glazing installed on or after July 1, 2009 on an enclosure of PME is approved to ANSI Standard ANSI/SAE Z26.1 (1996) (OHS Code, Sec. 265(2)).

27. An employer must ensure that broken or cracked glazing that obstructs an operator's view from PME is replaced as soon as reasonably practicable (OHS Code, Sec. 265(3)).

28. An employer must ensure that a windshield on PME has windshield wipers of sufficient size and capacity to clean matter that obstructs the operator's view from the windshield (OHS Code, Sec. 265(4)).

29. An employer must also ensure that PME has:

a. Device within easy reach of the operator that permits the operator to stop, as quickly as possible, the power unit, draw works, transmission, or any ancillary equipment driven from the PME, including a power take off auger or digging, lifting or cutting equipment.
b. An effective means of warning workers of the presence, general dimensions, and movement of the equipment.
c. Seats or other installations sufficient to ensure the safety of the operator and other workers who may be in or on the equipment while it's in motion.
d. Safety clips on the connecting pins if the PME is equipped with a trailer hitch (OHS Code, Sec. 266).

30. An employer must ensure that, if an operator's view of the equipment's path of travel is obstructed or cannot be seen directly or indirectly in a direction, the PME has:

a. An automatic audible warning device that activates if the equipment controls are positioned to move the equipment in that direction, and that is audible above the ambient noise level.
b. A warning device or method appropriate to the hazards of

the work site.
c. An automatic system that stops the equipment if a worker is in its path (OHS Code, Sec. 267(1)).

31. If it’s impractical to equip PME in accordance with Item #30, the operator must ensure that the operator and other workers are protected from injury before moving the equipment by:

a. Doing a visual inspection on foot of the area into which the equipment will move.
b. Following the directions of a traffic control or warning system.
c. Getting directions from a designated signaler or other worker who has an unobstructed view of the area into which the equipment will move, or is stationed in a safe position in continuous view of the operator.
d. Ensuring all other workers are removed from the area into which the equipment will move (OHS Code, Sec. 267(2)).

32. An employer must install a bulkhead or provide other effective means to protect the operator of a vehicle transporting equipment or materials that may shift during an emergency stop (OHS Code, Sec. 268).
33. An employer must ensure that PME has a cab, screen, shield, grill, deflector, guard, or other adequate protection for the operator if the hazard assessment indicates there’s a significant possibility that the operator may be injured by flying or projecting objects (OHS Code, Sec. 269).
Rollover Protective Structures
34. An employer must ensure that the following types of PME weighing 700 kilograms or more have rollover protective structures:

a. Tracked (crawler) or wheeled bulldozers, loaders, tractors, or skidders, other than those operating with side booms.
b. Back hoes with a limited horizontal swing of 180

degrees.
c. Motor graders.
d. Self propelled wheeled scrapers.
e. Industrial, agricultural, and horticultural tractors, including ride on lawnmowers.
f. Wheeled trenchers (OHS Code, Sec. 270(1)).

35. An employer must ensure that a rollover protective structure installed on or after July 1, 2009 meets (depending on the equipment):

a. CSA Standard B352.0 95 (R2006), Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 1: General Requirements, and

i. CSA Standard B352.1 95 (R2006), Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 2: Testing Requirements for ROPS on Agricultural Tractors, or
ii. CSA Standard B352.2 95 (R2006), Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 3: Testing Requirements for ROPS on Construction, Earthmoving, Forestry, Industrial, and Mining Machines.

b. SAE Standard J1042 (2003), Operator Protection for General Purpose Industrial Machines.
c. SAE Standard J1194 (1999), Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors.
d. ISO Standard 3471: 2000, Earth moving machinery – Roll over protective structures – Laboratory tests and performance requirements, or
e. OSHA Standard 1928.52, Protective Frames for Wheel type Agricultural Tractors – Test Procedures and Performance Requirements (OHS Code, Sec. 270(2)).

36. If PME is not listed as requiring ROPS under Item #34 above and a hazard assessment identifies rollover as a potential hazard, the employer must:

a. Equip the PME with a rollover protective structure that is either supplied by the manufacturer or certified by a professional engineer as being suited to that equipment.
b. Institute safe work procedures that eliminate the possibility of rollover (OHS Code, Sec. 270(3)).

37. An employer must ensure that the PME fitted with a rollover protective structure manufactured on or after July 1, 2009 has seat belts for the operator and passengers that meet:

a. SAE Standard J386 (2006), Operator Restraint System for Off Road Work Machines, or
b. SAE Information Report J2292 (2006), Combination Pelvic/Upper Torso (Type 2) Operator Restraint Systems for Off Road Work Machines (OHS Code, Sec. 271(1)).

38. Exception: If the work process makes wearing seat belts in the PME impracticable, the employer may permit workers to wear shoulder belts or use bars, screens or other restraining devices designed to prevent the operator or a passenger from being thrown out of the rollover protective structure (OHS Code, Sec. 271(2)).
39. If the hazard assessment identifies that an operator of PME is exposed to falling objects, the employer must ensure that the PME is equipped with a falling objects protective structure (OHS Code, Sec. 272(1)).
40. A falling objects protective structure installed on or after July 1, 2009 must comply with the appropriate requirements of:

a. SAE Standard J167 (2002), Overhead Protection for Agricultural Tractors – Test Procedures and Performance Requirements.
b. SAE Standard J/ISO 3449 (2005), Earthmoving Machinery –

Falling Object Protective Structures – Laboratory Tests and Performance Requirements.
c. SAE Standard J1042 (2003), Operator Protection for General Purpose Industrial Machines (OHS Code, Sec. 272(2)).

41. Instead of using a falling objects protective structure that complies with Item #40 above, an employer may use equipment that's certified by a professional engineer as providing the equivalent or better protection (OHS Code, Sec. 272(3)).
42. An employer must ensure that any addition, modification, welding or cutting of a rollover protective structure or a falling objects protective structure is done in accordance with the instructions of, and is re certified as restored to its original performance requirements by, the equipment manufacturer or a professional engineer (OHS Code, Sec. 273).

Fuel Tank in Cab

43. An employer must ensure that a fuel tank located in the enclosed cab of a unit of PME has a filler spout and vents that extend outside the cab, and are sealed to prevent vapours from entering the enclosed cab (OHS Code, Sec. 274).

Worker Transportation

44. An employer must ensure that no part of an operator's or passenger's body extends beyond the side of a vehicle or PME while it's in operation (OHS Code, Sec. 275(1)).
45. An employer must ensure that equipment or material in a vehicle or unit of PME is positioned or secured to prevent injury to the operator and passengers, if any (OHS Code, Sec. 275(2)).
46. An employer must ensure that sufficient protection against inclement weather is provided for workers travelling in a vehicle or unit of PME (OHS Code, Sec. 275(3)).
47. If a vehicle or unit of PME with an enclosed body is used to transport workers, an employer must ensure that the equipment's exhaust gases don't enter the enclosed body (OHS Code, Sec. 275(4)).

48. A person must not ride on top of a load that’s being moved (OHS Code, Sec. 276).

Hazardous Loads

49. An employer must ensure that workers are not servicing or maintaining a vehicle while flammable, combustible or explosive materials are:

a. Being loaded into or unloaded from the vehicle.
b. In the vehicle, other than in the vehicle’s fuel tank or a portable fuel tank that is approved to the appropriate ULC standard for that tank (OHS Code, Sec. 277(1)).

50. For the purposes of Item #49, servicing and maintaining a vehicle does not include checking or topping up fluid levels or air pressure.

Refueling

51. An employer must ensure that a worker does not:

a. Smoke within 7.5 metres of a vehicle while it’s being refueled.
b. Refuel a vehicle when there’s a source of ignition within 7.5 metres of that vehicle.
c. Dispense flammable fuels into the fuel tank of a motor vehicle or watercraft while its engine is running (OHS Code, Sec. 279(1)).

52. An employer must ensure that a worker dispensing flammable fuel:

a. Takes precautions to prevent the fuel from overflowing or spilling.
b. Does not knowingly overfill the fuel system.
c. Does not use an object or device that’s not an integral part of the hose nozzle valve assembly to maintain the flow of fuel (OHS Code, Sec. 279(2)).

Forklift Trucks

53. An employer must ensure that a forklift truck has a durable and legible load rating chart that is readily available to the operator (OHS Code, Sec. 283).
54. If a forklift truck is equipped with a seat belt by the original equipment manufacturer or a seat belt is added to the equipment at some later date, an employer must ensure that the seat belt is present and in useable condition (OHS Code, Sec. 284).

BRITISH COLUMBIA

1. Before mobile equipment is first operated on a shift, the operator must inspect it and report any unsafe, or potentially unsafe, defects to the supervisor or employer (OHS Reg, Sec. 16.3(1)).
2. During operation, the operator must continuously monitor the performance of the mobile equipment and report any unsafe, or potentially unsafe, defects to the supervisor or employer (OHS Reg, Sec. 16.3(2)).
3. The employer of the operator must ensure that a record is kept for at least 2 years of any defect reported, either as a stand-alone record or as an inclusion in a record of maintenance, repair or modification required by section 16.17 of the OHS Reg. (OHS Reg, Sec. 16.3(3)).
4. The controls, cab, floor, deck, steps, and similar surfaces on mobile equipment must be maintained to ensure they’re free of material, grease, oil, tools and other things that could create a slipping or tripping hazard, interfere with the operation of controls, or be a hazard to the operator or other occupants in the event of an accident (OHS Reg, Sec. 16.4).
5. Riders of mobile equipment must use seat belts whenever the mobile equipment is in motion or engaged in an operation that could cause the mobile equipment to become unstable, if the mobile equipment has seat belts (OHS Reg, Sec. 16.5(1)).
6. Seatbelts must be maintained in good condition (OHS Reg, Sec. 16.5(3)).
7. Designated walkways or safe work areas must be used to

separate pedestrians from areas of operation of mobile equipment, if practical (OHS Reg, Sec. 16.6(1)).
8. If it’s impractical to provide designated walkways or safe work areas, at least one of the following means must be used to protect pedestrians:

a. Posted speed limits for mobile equipment.
b. The pedestrian and mobile equipment operator must acknowledge each other’s presence before the pedestrian proceeds through the hazardous area.
c. Another effective means (OHS Reg, Sec. 16.6(2)).

9. If an operator can’t see the immediate work area where the mobile equipment will be moved, the operator must not move the mobile equipment unless one of the following precautions is taken:

a. Immediately before the movement, inspection by the operator on foot of the immediate work area for hazards, including overhead hazards.
b. Direction by a signaler who is stationed in a safe position in continuous view of the operator and who has an unobstructed view of the immediate work area.
c. Another effective precaution (OHS Reg, Sec. 16.6(3)).

10. If an operator of mobile equipment can’t see the immediate work area directly behind the mobile equipment where it will be backing up, the operator must not back up the mobile equipment unless:

a. One of the precautions referred to in Item #9 above is taken.
b. The mobile equipment has an audio warning device that: (i) provides a signal to persons in the vicinity that, if practical, is audible above the ambient noise level, and (ii) is activated automatically when the mobile equipment controls are positioned to back the mobile equipment up.
c. An additional means of protecting pedestrians is used if

hazards or conditions would prevent pedestrians hearing the audio warning device (OHS Reg, Sec. 16.6(4)).

11. Window glazing or window openings, and rear-view mirrors or other visual aids, must be maintained to allow clear vision (OHS Reg, Sec. 16.6(5)).
12. A person must not board or leave mobile equipment while it's moving, except for operators of rock drills that are designed to be controlled by persons in the standing position (OHS Reg, Sec. 16.7).
13. Only the operator may ride on mobile equipment unless the mobile equipment is a worker transportation vehicle, as defined in section 17.01 of the OHS Regs, that meets the requirements of Part 17, or Items #14 to #18 below apply (OHS Reg, Sec. 16.8(2)).
14. A person other than the operator may only ride on a ROPS-equipped prime mover for the purpose of training or maintenance and, for that purpose, the prime mover must not be operated in a rollover hazard area or engaged in an operation that could cause the mobile equipment to become unstable, or cause the person to fall or be ejected, pinched or dragged (OHS Reg, Sec. 16.8(3)).
15. The above Item #14 doesn't apply if the person, other than the operator, who is riding a ROPS-equipped snowcat or a ROPS-equipped UTV is sitting on a seat that meets the requirements of section 16.20 of the OHS Reg (OHS Reg, Sec. 16.8(4)).
16. A person other than the operator of mobile equipment may only ride on a prime mover without a ROPS as part of a job task and:

a. Must sit on a seat that meets the requirements of section 16.20, or
b. Must be protected by other safe facilities provided by the manufacturer of the mobile equipment or designed by a professional engineer, that include: (i) a footboard or platform upon which the person stands or sits, located to protect the person from contact with roadside objects or

vehicles, (ii) hand-holds, and (iii) a safety belt, harness, guardrail or other effective means of restraint, except where the person is a swamper riding on the back of a garbage truck during short pickup runs not exceeding a speed of 20 km/h (12 mph) (OHS Reg, Sec. 16.8(5)).

17. Rear-mounted platforms or footboards must not be occupied when the mobile equipment is backing up (OHS Reg, Sec. 16.8(6)).

18. A person may occupy a rear-mounted platform or footboard on non-ROPS equipped mobile equipment that's backing up as part of a method of retrieving traffic cones from a closed lane of a multilane roadway, as long as:

a. The mobile equipment is backing up in the closed lane.

b. The employer has identified the hazards and taken measures to eliminate the hazards, or minimize them to the lowest level practicable if it's not practicable to eliminate them.

c. The employer has established a written safe work procedure which is being followed and which (i) relates to that method of retrieving traffic cones, and (ii) includes a description of the measures referred to in paragraph (b) above.

d. The mobile equipment isn't exceeding a speed of 15 km/h (9 mph).

e. The mobile equipment has both of the following operating devices: (i) two or more 360° flashing yellow lights; (ii) a flashing arrow board pointing toward the open lane adjacent to the closed lane.

f. The mobile equipment has an audio warning device that (i) makes a distinct sound that is audible, above the ambient noise level in the workplace, to both the operator and the person, and (ii) operates automatically and continuously while the mobile equipment is backing up.

g. There's an effective 2-way voice communication system between the operator and the person on the platform.

h. One of the following requirements is met:

i. Behind the rear of the mobile equipment, barricades are placed across the closed lane or drums are placed in the centre of the closed lane, in accordance with the following: (A) the barricade or drum closest to the mobile equipment is continuously located not more than 250 m from the rear of the mobile equipment; (B) the barricades or drums are located along the length and to the end of the closed lane at intervals of not greater than 250.

ii. Directly behind and at a safe distance from the rear of the mobile equipment, in the closed lane, there's a buffer vehicle that meets the following requirements: (A) the buffer vehicle is continuously located not more than 100 m from the rear of the mobile equipment; (B) the buffer vehicle has 2 or more 360° flashing yellow lights and the lights are operating; (C) the buffer vehicle has a flashing arrow board pointing toward the open lane adjacent to the closed lane and the flashing arrow board is operating; (D) there's an effective 3-way voice communication system among the operator of the buffer vehicle, the operator of the mobile equipment and the person on the platform.

iii. The maximum load capacity established for the platform by the manufacturer or by the professional engineer who designed the platform is clearly marked on the platform and is not being exceeded (OHS Reg, Sec. 16.8(7)).

19. An operator of mobile equipment must not leave the controls unattended unless the mobile equipment has been secured against inadvertent movement by:

a. Engaging at least 2 effective braking or parking systems or devices, including: (i) the parking brake, (ii) the manufacturer's specified park position for the transmission, (iii) chocks for the wheels, or (iv) in the

case of 2-wheeled mobile equipment, stands.
b. Chocking wheels, if necessary (OHS Reg, Sec. 16.9(1)).

20. An operator of mobile equipment must not leave unattended any elevated load, part, extension or machine, unless it’s been landed in a safe position or otherwise immobilized and secured against inadvertent movement (OHS Reg, Sec. 16.9(2)).
21. If a hazard is created by the swinging movement of the load, cab, counterweight or any other part of mobile equipment, a person must not be within range of the swinging load or part and the operator must not move the part when any person is so exposed (OHS Reg, Sec. 16.10(1)).
22. Mobile equipment must be positioned so that no swinging part can come within 60 cm (2 ft) of any obstruction in any area accessible to persons or, if it’s not practical to position the mobile equipment in that manner, entry to such areas must be prevented by barriers or other effective means (OHS Reg, Sec. 16.10(2)).
23. A person must not remain in a cab of mobile equipment while loads are elevated over the cab unless that cab is protected by an adequate overhead guard (OHS Reg, Sec. 16.11).
24. A load for transport on mobile equipment must be loaded, secured and unloaded in a manner that prevents a hazard to persons (OHS Reg, Sec. 16.12(1)).
25. The means used under Item #24 must include a cab guard, a bulkhead or another effective means to prevent the hazard if a hazard may be created due to load shift upon deceleration that would endanger the occupants of the cab of a flatbed truck, or a truck and flatbed combination used to haul long steel structural members, poles, pipes, lumber, logs or similar materials, to prevent the hazard (OHS Reg, Sec. 16.12(3)).
26. If perimeter pins are used as part of the restraint system for cylindrical objects, the pins must extend above the top of the uppermost layer adjacent to the pin by the diameter of the largest cylindrical object stacked above the uppermost layer adjacent to the pin, and have a minimum height of 46 cm (18 in) (OHS Reg, Sec. 16.12(3)).

27. A person operating mobile equipment with air brakes must have either a valid air brake certificate, or driver's license with industrial air brake endorsement **EXCEPT** for a trainee operates the mobile equipment under the supervision of a qualified instructor (OHS Reg, Sec. 16.14).
28. To maintain adequate control and ensure safety, if the grade or condition of the travel surface may result in insufficient braking capability of mobile equipment:

a. The mobile equipment must be restrained by a wire rope or by a synthetic rope, which may include webbing.
b. Another machine that is suitable for the purpose of restraining the mobile equipment must be used (OHS Reg, Sec. 16.15).

29. Mobile equipment must not be maintained, repaired, or modified while in operation unless continued operation is essential to the process of maintenance, repair or modification and measures are taken to eliminate or minimize any risks associated with the process (OHS Reg, Sec. 16.17(1)).
30. Records for any maintenance, repair or modification that affects the safe performance of the mobile equipment must be kept and be reasonably available to the operator and maintenance personnel during work hours (OHS Reg, Sec. 16.17(2)).
31. Mobile equipment that's been subject to high voltage contact must be removed from service until a qualified person conducts an inspection of, and completes any necessary repairs to it (OHS Reg, Sec. 16.18(2)).
32. Foot controls, cab floors, decks, steps and similar surfaces on mobile equipment where a person walks or stands must be constructed of, or covered with, a suitable non-slip material (OHS Reg, Sec. 16.19).
33. A safely located and securely mounted seat must be provided for the operator of mobile equipment and for any other authorized rider who's required to be seated, unless the

mobile equipment is designed to be controlled or ridden by people in the standing position (OHS Reg, Sec. 16.20(1)).

34. The operator's seat must enable the operator to safely operate the mobile equipment with due regard for the mobile equipment's type and intended use, reach distances to the controls, and duration of use (OHS Reg, Sec. 16.20(2)).

35. Seating for mobile equipment operated on rough terrain must provide adequate lateral restraint (OHS Reg, Sec. 16.20(3)).

36. A ROPS-equipped prime mover (other than the ones listed in Item #37 below) must have, at minimum, 2-point lap belts that meet one of the following standards or the earlier version of the standard that applied on the date of manufacture of the prime mover:

a. Society of Automotive Engineers (SAE) Standard J386APR2022, Occupant Restraint System for Off-Road Work Machines.
b. SAE J2292 (2016), Combination Pelvic and Upper Torso Operator and Occupant Restraint Systems for Off-Road Work Machines.
c. ISO 6683 (2005) Earth-moving machinery – Seat belts and seat belt anchorages – Performance requirements and tests – Second edition.
d. ISO 3776, Tractors and machinery for agriculture – Seat belts – Part 1 (2006), Part 2 (2013) and Part 3 (2009).
e. Economic Commission for Europe of the United Nations (UNIECE) ECE Regulation No. 16, Safety-belts (OHS Reg, Sec. 16.21).

37. The seat of an ROPS-equipped haul truck, prime mover (other than a road grader) that's used in or designed or adapted for use in a forestry operation, prime mover used for an activity related to fighting forest fires, and prime mover used for land clearing on a slope which exceeds 35%, must have, at minimum, 3-point seat belts that meet one of the following standards or the earlier version of the standard

that applied on the date of manufacture of the prime mover:

a. SAE J2292 (2016), Combination Pelvic and Upper Torso Operator and Occupant Restraint Systems for Off-Road Work Machines.
b. Economic Commission for Europe of the United Nations (UN/ECE) ECE Regulation No. 16, Safety-belts (OHS Reg, Sec. 16.21.1).

38. Mobile equipment must be protected against starter motor engagement when the engine is coupled to the wheels or tracks EXCEPT for a dump truck, provided that it's designed for remotely controlled alignment for coupling with its trailer, and during such coupling (OHS Reg, Sec. 16.22).
39. A steering wheel knob on mobile equipment must not be used or installed if road wheel reaction forces to the steering wheel are hazardous to the operator (OHS Reg, Sec. 16.23(1)).
40. A steering wheel knob must be a low profile or mushroom type and lie completely within the periphery of the steering wheel (OHS Reg, Sec. 16.23(2)).
41. Mobile equipment manufactured after January 1, 2000 that has a single cab entrance door must have an alternative means of escape that is clearly marked both inside and outside the cab and that:

a. Is not located on the same surface as the cab entrance door.
b. Is usable regardless of the position of movable components or accessories of the machine.
c. Doesn't pose additional hazards to the operator.
d. Can be opened from both the inside and outside without tools when the mobile equipment is in use.
e. Requires a force of no more than 135 N (30.3 lb.) to open.
f. Provides a clear opening, the minimum dimensions of which comply with ISO Standard 2867-2011(R2016), Earth-moving machinery – Access systems (OHS Reg, Sec. 16.24(1)).

42. Mobile equipment manufactured before January 1, 2000 with a single cab entrance door must meet the requirements for an alternative means of escape required at the date of manufacture (OHS Reg, Sec. 16.24(2)).
43. A fuel tank fill point or vent opening is not permitted within an enclosed cab of mobile equipment (OHS Reg, Sec. 16.25).
44. Mobile equipment must have at least one mirror that provides an operator of the mobile equipment with an undistorted reflected view to the rear UNLESS the conditions of use or mobile equipment structure makes the use of mirrors impractical (OHS Reg, Sec. 16.26(1) + (3)).
45. A lift truck may be equipped with only one parabolic mirror (OHS Reg, Sec. 16.26(2)).
46. Mobile equipment must have lights and the lights must be used to adequately illuminate the mobile equipment's direction of travel, the working area within close proximity and the cab instruments, if the mobile equipment is used:

a. During the period from 1/2 hour after sunset to 1/2 hour before sunrise and work area lighting is inadequate.
b. When persons or vehicles aren't clearly discernible at a distance of 150 m (492 ft) (OHS Reg, Sec. 16.27(1)).

47. The required lights must meet Society of Automotive Engineers (SAE) J1029 2012, Lighting and Marking of Construction, Earthmoving Machinery or the earlier version of the standard that applied on the date of manufacture of the mobile equipment (OHS Reg, Sec. 16.27(2)).
48. Dump trucks used to transport any material, and any other mobile equipment used to collect, transport or compact waste material or recyclable material, must, while in transit, have a visual or audio warning device that:

a. Provides a signal to the operator when a lifting mechanism, top door cover, body, tilt frame, or tailgate component is extended in a manner that: (i) is likely to contact an overhead obstruction, or (ii) creates a hazard.

b. Meets the requirements of Items #49 and #50, as applicable (OHS Reg, Sec. 16.28(1)).

49. The visual warning signal from a visual warning device must display within the operator's field of vision (OHS Reg, Sec. 16.28(2)).

50. The audio warning signal from an audio warning device must make a distinct sound that's audible to the operator above the ambient noise level (OHS Reg, Sec. 16.28(3)).

51. Mobile equipment must have:

a. A primary service brake system.
b. A secondary emergency or supplementary brake system.
c. A parking brake, whether or not it's part of the primary or secondary brake system (OHS Reg, Sec. 16.29(1)).

52. Exception: The above Item #51 doesn't apply to:

a. Mobile equipment that: (i) has not been equipped with a secondary brake system by the original manufacturer, and (ii) is licensed under the Motor Vehicle Act to operate on a highway.
b. ATVs.
c. UTVs.
d. High and low lift trucks.
e. Skid steers.
f. Golf carts.
g. Ride-on, sit-down turf care equipment (OHS Reg, Sec. 16.29(2)).

53. Unless an exception contained in the OHS Reg applies, the brake systems referred to in Item #51 above must meet the following standards, as applicable, or the earlier version of the applicable standard that applied on the date of manufacture of the mobile equipment:

a. ISO 3450:2011 Earth-moving machinery — Wheeled or high-speed rubber-tracked machines — Performance requirements and test procedures for brake systems.

b. ISO 10265:2008 Earth-moving machinery – Crawler machines – Performance requirements and test procedures for braking systems.
c. Society of Automotive Engineers (SAE) Standard J2118-2012, Braking Performance-Asphalt Pavers (OHS Reg, Sec. 16.29(3)).

54. Buckets, forks, booms, hoists, and other load-handling attachments must be installed on mobile equipment as specified by the manufacturer of the mobile equipment unless otherwise certified by a professional engineer for use on the mobile equipment (OHS Reg, Sec. 16.30(1)).
55. The design of the above attachments must provide for an evaluation of the stability of the mobile equipment, including the effect of load swing (OHS Reg, Sec. 16.30(2)).
56. Any instructions of the manufacturer or professional engineer for safe use of the mobile equipment with the attachment must be available to the operator (OHS Reg, Sec. 16.30(3)).
57. Mobile equipment designed and used for lifting, hoisting or similar operations must have a permanently-affixed notation, legible and visible to the operator, stating the equipment's rated load (OHS Reg, Sec. 16.31(1)).
58. If the rated load varies with the reach of the mobile equipment, a legible load chart must be displayed in the operator's cab of the mobile equipment, or be otherwise immediately available to the operator (OHS Reg, Sec. 16.31(2)).
59. If mobile equipment is modified, the employer must ensure that the rated load and the load chart are changed as necessary to reflect the new load ratings (OHS Reg, Sec. 16.31(3)).
60. An exposed moving part of mobile equipment that's a hazard to the operator or other persons must be guarded so that no person can access the hazard area created by the exposed moving part, unless the part must be exposed for proper functioning, in which case the part must be guarded as much as

is practical and consistent with the intended function of the part (OHS Reg, Sec. 16.32(1)).

61. Mobile equipment with a moving part that’s close to the operator’s compartment must be effectively safeguarded so that no part of a person’s body will project into the hazard area created by the moving part (OHS Reg, Sec. 16.32(2)).

62. For purposes of the following Items, “tipover” is defined as a roll about the longitudinal axis of up to 90°, or a rear or frontal pitchover about the transverse axis of up to 90°, which roll or pitchover results in the contact of the cab with a surface (OHS Reg, Sec. 16.33(1)).

63. Operators and authorized riders of mobile equipment must be protected against any reasonably foreseeable hazards from falling, flying or intruding objects or materials, or tipovers, by means of cabs, windows, screens, grills, shields, deflectors, guards or structures on the mobile equipment that:

a. Are designed and installed to provide an adequate view for the operator to safely use the mobile equipment.

b. Meet the requirements of:

i. At least one of the following standards, if the mobile equipment is in the scope of the standard:

1. CSA Standard B352.0-16, Rollover protective structures (ROPS), falling object protective structures (FOPS), operator protective structures (OPS), and tip-over protective structures (TOPS) for mobile machinery – General Canadian requirements;

2. Society of Automotive Engineers (SAE) Recommended Practice J1356 MAR2013, Performance Criteria for Falling Object Guards for Excavators;

3. SAE J2267 APR2007 Minimum Performance Criteria for Operator Front Protective Structures (OFPS) for Certain Equipment;

4. ANSI/UL 752, Standard for Bullet-Resisting Equipment, 11th edition (with revisions up to and

including December 11, 2015);
5. WorkSafeBC G601 Standard – Heavy Duty Backstops for Logs and Rocks, set out in Schedule 16-A of this Part;
6. WorkSafeBC G603 Standard – Heavy Duty Guards for Windows, set out in Schedule 16-B of this Part;
7. WorkSafeBC G604 Standard – Light Duty Guards for Windows, set out in Schedule 16-C of this Part, or

ii. An earlier version of at least one of the standards set out in subparagraph (i)(1) to (4), if the earlier version applied to the cabs, windows, screens, grills, shields, deflectors, guards, or structures on the mobile equipment on the date of manufacture of the mobile equipment (OHS Reg, Sec. 16.33(2)).

64. A window on mobile equipment manufactured after February 1, 2002 or otherwise installed on mobile equipment after that date must be marked to identify the manufacturer, the standard to which the window conforms and, in the case of polycarbonate windows, the thickness and grade of material (OHS Reg, Sec. 16.33(3)).

65. For purposes of the following Items, "rollover risk assessment" means an assessment of the risk that mobile equipment will experience a rollover while it's being operated by an on-board operator, based on the relevant circumstances of the proposed operation, including the following:

a. The stability of the mobile equipment, taking into account such factors as its configuration and any attachments or towed components.
b. Whether the mobile equipment will be operated in a rollover hazard area,
c. The nature of the activities to be performed (OHS Reg, Sec. 16.34(1)),

66. Mobile equipment must be used with a ROPS unless:

a. The mobile equipment is: (i) a snowmobile, ATV or any other mobile equipment designed for a standing operator or with a straddle seat, or (ii) a golf cart, or
b. A qualified person has completed a rollover risk assessment respecting the mobile equipment and determined there is no, or only a minimal, risk of rollover (OHS Reg, Sec. 16.34(2)),

67. A rollover risk assessment and determination referred to in Item #66(b) immediately above must be in writing and available at the worksite if the assessment and determination pertains to one of the following types of mobile equipment:

a. Tractors, dozers, loaders, skidders, trenchers, graders, scrapers, roller-compactors, pipe layers, and rough terrain lift trucks.
b. Rock drills operated by a seated on-board operator.
c. Ride-on turf care equipment heavier than 400 kg (882 lbs) manufactured after September 1, 2021.
d. UTVs manufactured after September 1, 2021.
e. Excavators manufactured after September 1, 2021 and used in a rollover hazard area (OHS Reg, Sec. 16.34(3)).

68. The Board may require a ROPS to be installed on any mobile equipment if the design of the mobile equipment or circumstances of use indicate the need (OHS Reg, Sec. 16.34(4)).
69. A ROPS must be designed and installed so that it doesn’t obstruct the operator’s view or ability to operate the mobile equipment safely (OHS Reg, Sec. 16.34(5)).
70. A ROPS installed on mobile equipment (other than (a) an excavator between 6 tonnes (13 250 lbs) and 50 tonnes (110 231 lbs), (b) powered ride-on turf care equipment heavier than 400 kg (882 lbs), or (c) a UTV) must meet CSA Standard B352.0-16 – Roll-over protective structures (ROPS), falling object protective structures (FOPS), operator protective structures (OPS), and tip-over protective structures (TOPS) for mobile machinery – General Canadian requirements or the earlier

version of the standard that applied on the date of manufacture of the mobile equipment (OHS Reg, Sec. 16.35(1)).
71. A ROPS installed on an excavator between 6 tonnes (13 250 lbs) and 50 tonnes (110 231 lbs) must meet ISO 12117-2: 2008 Earth-moving machinery – Laboratory tests and performance requirements for protective structures of excavators – Part 2: Roll-over protective structures (ROPS) for excavators of over 6 t. (OHS Reg, Sec. 16.35(2)).
72. A ROPS installed on powered ride-on turf care equipment heavier than 400 kg (882 lbs) must meet ISO 21299:2009 Powered ride-on turf care equipment- Roll-over protective structures (ROPS) – Test procedures and acceptance criteria (OHS Reg, Sec. 16.35(3)).
73. A ROPS installed on a UTV must meet the requirements of section 16.41(1) of the OHS Reg (OHS Reg, Sec. 16.35(4)).
74. A ROPS must be certified by the ROPS manufacturer or a professional engineer as meeting the applicable standard specified above, including after any modification or repair to the ROPS (OHS Reg, Sec. 16.36).
75. A modified or repaired ROPS must be permanently marked with the following information:

a. An identification of the modifications or repairs effected.
b. The date of recertification.
c. The name and address of the recertifying professional engineer or manufacturer (OHS Reg, Sec. 16.37).

76. The design, fabrication, use, inspection, maintenance, and repair of a lift truck must meet (or the earlier version of the applicable standard that applied on the date of manufacture of the lift truck):

a. CAN/CSA Standard B335-15 – Safety standard for lift trucks, or
b. As applicable:

i. ANSI/ITSDF B56.1a-2018, Safety Standard for Low Lift

and High Lift Trucks,
ii. ANSI/ITSDF B56.6-2016, Safety Standard for Rough Terrain Forklift Trucks, or
iii. ISO 10896 Rough-Terrain Trucks – Safety Requirements and Verification: Part 1 (2012): Variable-Reach Trucks; Part 2 (2016): Slewing Trucks; Part 4 (2015): Additional Requirements for Variable-Reach Trucks Handling Freely Suspended Load (OHS Reg, Sec. 16.43(1)).

77. Operator training for lift trucks must meet the requirements of Clause 6 of CAN/CSA Standard B335-15 – Safety standard for lift trucks (OHS Reg, Sec. 16.43(2)).
78. In areas where lift truck use is separated from pedestrian traffic, a lift truck may travel forward with an elevated load if such operation will improve the operator's view of the path of travel, provided that operating conditions are maintained to ensure vehicle stability and the specifications of the mobile equipment manufacturer are not compromised (OHS Reg, Sec. 16.43(5)).
79. A unitized load being transported on a lift truck must not project a distance greater than half its height above the fork carriage, back rest, or back rest extension of the lift truck (OHS Reg, Sec. 16.43(6)).
80. No part of a load of loose objects may project above the fork carriage, back rest, or back extension of a lift truck (OHS Reg, Sec. 16.43(7)).
81. Items #79 and #80 above don't apply if the load is assembled and handled in such a way that there is no possibility of any part of the load falling off (OHS Reg, Sec. 16.43(9)).
82. A load that could shift during transportation must be restrained if such shifting would result in the load or the lift truck becoming unstable (OHS Reg, Sec. 16.43(8)).
83. Additional requirements also apply to certain other types of mobile equipment, including:

a. A feller buncher, timber harvester and timber processor with a significant risk of rollover or tipover when operating on a sloped forest worksite other than a road or a landing (OHS Reg, Sec. 16.38).
b. All-terrain cycles (OHS Reg, Sec. 16.39).
c. ATVs (OHS Reg, Sec. 16.40).
d. UTVs (OHS Reg, Sec. 16.41).
e. Earth-movers (OHS Reg, Sec. 16.42).

MANITOBA

1. Employer must develop, implement, train and ensure workers comply with safe work procedures for use of powered mobile equipment in the workplace (WSH Regs, Sec. 22.2).
2. Employer must ensure that powered mobile equipment is inspected by a competent person for defects and unsafe conditions:

a. As often as necessary to ensure that the equipment is in safe operating condition.
b. In accordance with the manufacturer's specifications (WSH Regs, Sec. 22.3(1)).

3. If an inspection of powered mobile equipment identifies a defect or unsafe condition that is hazardous or may create a risk to the safety or health of a worker, an employer must ensure that the powered mobile equipment is not operated until the defect is repaired or the unsafe condition is corrected (WSH Regs, Sec. 22.3(2)).
4. An employer must ensure that a written record of the inspections, repairs, and maintenance carried out on the powered mobile equipment is kept at the workplace and made readily available to the operator of the equipment (WSH Regs, Sec. 22.3(3)).
5. An employer must ensure the operator's manual for powered mobile equipment is readily available to a worker who operates the equipment (WSH Regs, Sec. 22.4).

6. An employer must ensure that the exposed moving parts of powered mobile equipment, including gears, pulleys, belts, chains and shafts, are effectively shielded, enclosed or guarded to prevent a worker from coming in contact with the moving parts (WSH Regs, Sec. 22.5(1)).
7. If it's not reasonably practicable to provide a shield, enclosure or guard, an employer must ensure that an alternative mechanism, system or change in work procedure that offers protection to a worker that is equal to or greater than the protection from a shield, enclosure or guard is put into place to protect the safety and health of a worker (WSH Regs, Sec. 22.5(2)).
8. An employer must ensure that every surface of powered mobile equipment, including exhaust systems and hydraulic lines, that may burn a worker who comes in contact with it is shielded or guarded to provide effective protection from burns (WSH Regs, Sec. 22.6(1)).
9. An employer must ensure that powered mobile equipment which has an enclosed compartment used to transport workers has the exhaust outlet of the engine located so that exhaust gases can't enter the compartment (WSH Regs, Sec. 22.6(2)).
10. An employer and a supplier must ensure that powered mobile equipment is equipped with:

a. A horn or other audible warning device.
b. A portable fire extinguisher that meets the Manitoba Fire Code.
c. An effective braking system.
d. An effective parking device (WSH Regs, Sec. 22.7(1)).

11. An employer and a supplier must ensure that powered mobile equipment used to drive ancillary equipment, including a power take-off, crane or auger or any digging, lifting or cutting equipment, is equipped with a device, within easy reach of the operator, that allows the operator to immediately stop the ancillary equipment (WSH Regs, Sec. 22.7(2)).
12. If, at the time it was manufactured or subsequently,

powered mobile equipment is equipped with a seat with a seat belt or another type of restraining device, an employer must ensure that:

a. The seat and seat belt or restraining device aren’t removed.
b. The operator and any other worker required or permitted to be in or on the equipment use the seats and seat belts or other restraining devices when the powered mobile equipment is in use (WSH Regs, Sec. 22.8).

13. An employer must ensure that powered mobile equipment operated during hours of darkness or in an area that’s not adequately illuminated is equipped with suitable headlights and backup lights that clearly illuminate the path of travel (WSH Regs, Sec. 22.9(1)).
14. A supplier must ensure that powered mobile equipment intended to be operated during hours of darkness is equipped with suitable headlights and backup lights that clearly illuminate the path of travel (WSH Regs, Sec. 22.9(2)).
15. An employer and a supplier must ensure that powered mobile equipment equipped with a windshield is also equipped with suitable windshield wipers and washers (WSH Regs, Sec. 22.10(1)).
16. An employer and a supplier must ensure that any transparent material used as part of the enclosure for a cab or canopy on powered mobile equipment is made of safety glass or another material that gives at least the equivalent protection against shattering (WSH Regs, Sec. 22.10(2)).
17. An employer must ensure that, when there’s a risk to the safety or health of the operator of powered mobile equipment or any other worker required or permitted to be in or on the equipment from a falling object, the equipment is equipped with a falling objects protective structure that:

a. Complies with the applicable requirements of:

i. SAE Standard J167_201701, Overhead Protection for

Agricultural Tractors – Test Procedures and Performance Requirements,
ii. ISO 3449:2005, Earthmoving Machinery – Falling-Object Protective Structures – Laboratory Test and Performance Requirements, or
iii. SAE Standard J1042_201206 – Operator Protection for General-Purpose Industrial Machines; or

b. Is certified by a professional engineer as providing the equivalent or better protection than that of a structure that complies with the requirements of clause (a) (WSH Regs, Sec. 22.11(1)).

18. An employer must ensure that any addition, modification or structural repair of a falling objects protective structure is done in accordance with the instructions of, and is recertified as restored to its original performance requirements by, the equipment manufacturer or a professional engineer (WSH Regs, Sec. 22.11(2)).
19. An employer must ensure that powered mobile equipment used to transport tools, equipment or materials that may shift during a stop is equipped with a bulkhead or restraining device that effectively protects the operator and any other worker required or permitted to be in or on powered mobile equipment (WSH Regs, Sec. 22.12(1)).
20. An employer must ensure that no worker places equipment or material in the cab of powered mobile equipment in which the operator or any other worker is being transported unless they’re positioned or secured to restrict their movement and prevent injury to the operator or other worker (WSH Regs, Sec. 22.12(2)).
21. An employer must ensure that no flammable liquids, hazardous chemicals or any other potentially harmful materials are transported in an enclosed part of powered mobile equipment where a worker is present (WSH Regs, Sec. 22.13).
22. If an enclosed cab is provided, the employer and

supplier must ensure that the fuel tank of the powered mobile equipment is not located in its enclosed cab (WSH Regs, Sec. 22.14).

23. An employer must ensure that before powered mobile equipment is operated, its operator completes a visual inspection of the equipment and the surrounding area to ensure that it's in safe operating condition and that no one, including the operator, will be endangered when the powered mobile equipment is started (WSH Regs, Sec. 22.15).

24. An employer must ensure that, if the movement of a load or the cab, counterweight or any other part of the powered mobile equipment creates a risk to the safety or health of a person:

a. The person doesn't remain within the range of the moving load or part.

b. The operator of the equipment doesn't move the load or equipment if a person is at risk (WSH Regs, Sec. 22.16(1)).

25. An employer must ensure that, if a person could be caught between a moving part of the powered mobile equipment and another object: entry to the area is restricted; and the operator of the equipment maintains an appropriate clearance distance between the powered mobile equipment and the object (WSH Regs, Sec. 22.16(2)).

26. An employer must ensure that no person is in the immediate path of travel of powered mobile equipment or under any material or equipment being loaded or unloaded from it (WSH Regs, Sec. 22.16(3)).

27. An employer must ensure that, when powered mobile equipment is used above grade height in or on a building or other structure, an appropriate barrier is installed to prevent the equipment from falling (WSH Regs, Sec. 22.17).

28. An employer must ensure that no worker is transported by powered mobile equipment or any attachment unless:

a. The equipment or attachment is designed for that purpose; and

b. If there’s a separation between the operator and the passenger, there’s a suitable means of communication between the operator and the passenger (WSH Regs, Sec. 22.18(1)).

29. An employer must ensure that no worker is transported on top of a load that’s being moved by powered mobile equipment (WSH Regs, Sec. 22.18(2)).
30. An employer must ensure that the operator doesn’t leave the controls of powered mobile equipment unattended unless: the equipment is secured against unintentional movement by an effective method of immobilizing the equipment; and all suspended or elevated parts, if any, are fully lowered (WSH Regs, Sec. 22.19).
31. An employer must ensure that no worker operates powered mobile equipment equipped with an extending boom unless the equipment is stable under all operating conditions (WSH Regs, Sec. 22.20).
32. An employer must ensure that:

a. If a ladder is a permanent part of an extending boom on powered mobile equipment, no worker is on the ladder when the equipment is being moved or the boom is being articulated, extended or retracted.
b. If outriggers or stabilizers are incorporated into powered mobile equipment, no worker climbs a ladder attached to an extending boom unless the outriggers or stabilizers are deployed and used in accordance with the manufacturer’s specifications (WSH Regs, Sec. 22.21(1)).

33. An employer must ensure that a worker who works from a ladder attached to an extending boom on power mobile equipment complies with Part 14 of the WSH Regs (Fall Protection) (WSH Regs, Sec. 22.21(2)) EXCEPTION: Rule doesn’t apply to firefighters working on firefighting equipment.
34. An employer must ensure that if an elevated part of powered mobile equipment is being maintained or repaired by a worker, the part and the powered mobile equipment are securely

blocked in place and can’t move (WSH Regs, Sec. 22.22).

35. An employer must ensure that:

    a. A competent person services, inspects, disassembles and reassembles a tire or tire and wheel assembly of powered mobile equipment in accordance with the specifications of both the tire manufacturer and the manufacturer of the powered mobile equipment.
    b. The manufacturer’s service manuals for the tires and wheels are readily available to the competent person (WSH Regs, Sec. 22.23(1)).

36. An employer must ensure that a competent person:

    a. Uses a clamp-on type of connector to inflate split-rim and locking ring wheels; and
    b. Only inflates a tire mounted on a split-rim or locking ring wheel if: (i) the wheel assembly is in a tire cage or is similarly restrained, and (ii) potential flying parts from split-rim or locking ring failure or tire rupture are contained (WSH Regs, Sec. 22.23(2)).

37. An employer must ensure that, where a clamp-on type of connector is used to inflate a tire, the person doing so:

    a. Uses an in-line pressure gauge.
    b. Uses a positive pressure control.
    c. Inflates the tire from a safe position that’s not within the potential trajectory of the tire (WSH Regs, Sec. 22.23(3)).

38. Unless equipped with a proper rollover protective structure, no person may operate, and no employer may authorize or permit a worker to operate:

    a. The following types of powered mobile equipment with a machine mass of 700 kg or more:

        i. A tractor.

ii. A motor grader.
iii. A prime mover.
iv. A skidder.
v. A tracked dozer or loader.
vi. A wheeled dozer or loader.

b. The following types of powered mobile equipment with a machine mass of 2,700 kg or more:

i. A compactor.
ii. A roller.
iii. Powered mobile equipment that is an agricultural tractor with engine power greater than 15 kW (WSH Regs, Sec. 22.25(1)).

39. Where a rollover protective structure is required, the employer and the supplier of powered mobile equipment must ensure that the equipment is equipped with a rollover protective structure that:

a. If commercially manufactured, complies with the applicable requirements of:

i. CSA B352.0-16, Rollover protective structures (ROPS), falling object protective structures (FOPS), operator protective structures (OPS), and tip-over protective structures (TOPS) for mobile machinery – General Canadian requirements.

1. CSA B352.1-95 (R2006), Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 2: Testing Requirements for ROPS on Agricultural Tractors.
2. CSA B352.2-95 (R2006), Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 3: Testing Requirements for ROPS on Construction, Earthmoving, Forestry, Industrial, and Mining Machines.

ii. SAE Standard J1042_201206, Operator Protection for General-Purpose Industrial Machines.
iii. SAE Standard J1194_201611, Rollover Protective Structures (ROPS) for Wheeled Agricultural Tractors.
iv. ISO 3471:2008, Earth-moving machinery – Roll-over protective structures – Laboratory tests and performance requirements.
v. A predecessor of any of the above standards that was in effect when the powered mobile equipment was manufactured.

b. If not commercially manufactured, is designed by a professional engineer and constructed and maintained so that when the equipment on which it's installed is travelling at a forward speed of 16 km/h, engages a 30° slope and rolls 360° about the longitudinal axis on a hard clay surface:

i. The rollover protective structure will withstand the impact forces.
ii. Upon impact, no part of the rollover protective structure will enter the space of the equipment that is normally used by the operator.
iii. The rollover protective structure will support the equipment when the equipment is upside down (WSH Regs, Sec. 22.25(2)).

40. Exception: A rollover protective structure is not required to conform with the requirements of Item #39 if:

a. It was manufactured before May 1, 1991.
b. It was manufactured in accordance with:

i. A standard approved by an agency of the Government of Canada or province or territory of Canada, or
ii. The design specifications certified by a professional engineer; and

c. It is maintained in accordance with the standard or

specifications applicable under clause (b) (WSH Regs, Sec. 22.25(3)).

41. When a rollover protective structure is required to be provided under Item #38 above, the employer and supplier must ensure that:

a. The rollover protective structure is securely fastened to the frame of the mobile equipment.
b. The rollover protective structure has a permanently attached legible identification marker containing the following information:

i. If commercially manufactured:

1. The name of the commercial manufacturer.
2. Its model and serial number.
3. The title and clause of the standard to which it was designed, manufactured and installed.
4. The equipment make and model for which it is designed to be used, or

ii. If designed by a professional engineer, the name and registration number of the professional engineer who designed it; and

c. The powered mobile equipment is equipped with a seat with a seat belt for the operator and any other worker required or permitted to be in or on the powered mobile equipment (WSH Regs, Sec. 22.25(4)).

42. Where the structural integrity of a required rollover protective structure is compromised, no person may operate the powered mobile equipment, and no employer may permit the powered mobile equipment to be operated, unless the rollover protective structure is replaced or a professional engineer certifies that it hasn’t been compromised in such a manner that it no longer complies with the requirements of Item #39 above (WSH Regs, Sec. 22.26(1)).

43. An employer and a supplier must ensure that any addition, modification, or structural repair of a rollover protective structure is done in accordance with the instructions of and is recertified as restored to its original performance requirements by, the equipment manufacturer or a professional engineer (WSH Regs, Sec. 22.26(2)).
44. “Powered lift truck,” for purposes of the following requirements, means powered mobile equipment that is designed to allow the operator to lift, carry and unload a load; and within a class of trucks to which the code of practice referred to in subsection 22.29(2) of the WSH Regs applies (WSH Regs, Sec. 22.28).
45. No employer may require or permit a worker to operate a powered lift truck unless the employer has issued a certificate to the worker (WSH Regs, Sec. 22.29(1)).
46. No employer may issue a certificate to a worker to operate a powered lift truck unless it has first ensured that the worker:

a. Has received instruction, training and testing in the operation of the powered lift truck in accordance with a code of practice approved and issued under the WSH Act.
b. Is familiar with the operating procedures of the truck that the worker will be operating.
c. Has demonstrated competency in the operation of the truck that the worker will be operating in accordance with the code of practice referred to in clause (a) (WSH Regs, Sec. 22.29(2)).

47. An employer who issues a certificate to a worker must:

a. Establish and implement an evaluation system to ensure that the worker maintains competency in the operation of the powered lift truck.
b. Maintain a record of the training the worker receives in the operation of the truck.
c. Produce a copy of the certificate and record on the request of a safety and health officer (WSH Regs, Sec.

22.29(3)).

48. An employer and a supplier must ensure that a powered lift truck is provided with a clearly visible and legible load rating chart that’s affixed to the truck (WSH Regs, Sec. 22.30).
49. Additional requirements apply to:

a. Concrete pump trucks (WSH Regs, Sec. 22.31); and
b. Dump trucks (WSH Regs, Sec. 22.32).

50. Special requirements apply to work on ice, that is:

a. Over water, where the water is more than one metre deep; or
b. Over any other material into which a worker could sink more than one metre (WSH Regs, Sec. 22.23).

51. Where a worker is required or permitted to use powered mobile equipment on ice, an employer must develop, implement, train, and ensure workers comply with safe work procedures that include:

a. Procedures for testing the thickness of the ice to ensure that it will support the load to be placed on it before any work begins, and as often during the work as necessary to ensure that there’s no risk to the safety of the workers; and
b. A plan for dealing with an emergency arising from powered mobile equipment breaking through the surface of the ice (WSH Regs, Sec. 22.34).

52. An employer must ensure that powered mobile equipment used on ice has its weight, when fully fueled, legibly marked on it (WSH Regs, Sec. 22.35(1)).
53. An employer must ensure that the weight of an attachment attached to powered mobile equipment used on ice is legibly marked on the attachment (WSH Regs, Sec. 22.35(2)).
54. An employer must ensure that powered mobile equipment is

not refueled while it's on ice (WSH Regs, Sec. 22.36).
55. When building a winter road on ice, an employer must ensure that a worker in a pilot vehicle accompanies workers operating powered mobile equipment on the ice (WSH Regs, Sec. 22.37(1)).
56. The pilot vehicle must be equipped with a means of communication that enables the operator to communicate with:

a. The workers who will implement the plan for dealing with an emergency arising from powered mobile equipment breaking through the ice; or
b. The applicable emergency response services (WSH Regs, Sec. 22.37(2)).

NEW BRUNSWICK

1. Employer and employee must ensure that powered mobile equipment is erected, installed, assembled, started, operated, used, handled, stored, stopped, serviced, tested, cleaned, adjusted, maintained, repaired, inspected, and dismantled in accordance with the manufacturer's specifications (OHS Act General Reg, Sec. 218.1).
2. Employer must ensure that powered mobile equipment has a cab, screen, shield, grill, deflector, guard, or other adequate protection for the operator if the operator may be exposed to the hazard of flying or intruding objects (OHS Act General Reg, Sec. 219(1)).
3. Where a hazard exists to the operator of powered mobile equipment from falling objects, an employer must ensure that the powered mobile equipment is equipped with a falling objects protective structure adequate for the conditions and that meets the requirements of the appropriate SAE standard listed below or that's certified by an engineer to provide equivalent or better protection:

a. SAE J167 DEC86, "Overhead Protection for Agricultural Tractors – Test Procedures and Performance".

b. SAE J231 JAN81, “Minimum Performance Criteria for Falling Object Protective Structures (FOPS)”.
c. SAE J397 APR88, “Deflection Limiting Volume-ROPS/FOPS Laboratory Evaluation”.
d. SAE J1042 JUN93, “Operator Protection for General Purpose Industrial Machines”.
e. SAE J1043 APR85, “Performance Criteria for FOPS on General Purpose Industrial Machines”.
f. SAE J1084 APR80, “Operator Protective Structure Performance Criteria for Certain Forestry Equipment” (OHS Act General Reg, Sec. 219(2)).

4. An employer must ensure that powered mobile equipment manufactured on or after January 1, 1974 is equipped with a rollover protective structure that meets CSA standard B352-M1980, “Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines” (OHS Act General Reg, Sec. 220(1)).
5. An employer must ensure that powered mobile equipment manufactured before January 1, 1974 is equipped with a rollover protective structure that meets the requirements of Item #4 above or the following criteria:

a. The rollover protective structure and supporting attachments are designed, fabricated and installed in such a manner to support not less than twice the weight of the equipment, based on the ultimate strength of the metal and integrated loading of supporting members with the resultant load applied at the point of impact.
b. There’s a vertical clearance of 1320 mm between the deck and the rollover protective structure at the access openings.
c. The rollover protective structure and supporting attachments referred to in paragraph (a) are certified as meeting the requirements of paragraph (a) by the manufacturer of the rollover protective structure, the installing agency or an engineer (OHS Act General Reg, Sec.

220(2)).

6. The Chief Compliance Officer may give permission in writing for a deviation for powered mobile equipment to be used without a rollover protective structure if there's no significant chance of upset and:

a. The equipment has a frame that's not capable of supporting the stresses introduced by a rollover protective structure during upset.
b. The equipment has a low centre of gravity that makes upset unlikely.
c. The installation of a rollover protective structure constitutes an operating hazard in the circumstances in which the equipment is operating (OHS Act General Reg, Sec. 220(3)).

7. An employer must ensure that all modifications or repairs to a rollover protective structure meet the requirements of this section and are certified as meeting such requirements by the modification design agency, the installing agency, or an engineer and that such certification is made available to an officer on request (OHS Act General Reg, Sec. 220(4)).
8. An employer must ensure that powered mobile equipment fitted with a rollover protective structure is provided with:

a. Seatbelts for the operator and passengers that meet or exceed whichever of the following Society of Automotive Engineers' Recommended Practices is appropriate:

i. SAE J386 NOV97, "Operator Restraint Systems for Off-Road Work Machines".
ii. SAE J117 JAN 1970, "Dynamic Test Procedure – Type 1 and Type 2 Seat Belt Assemblies".
iii. SAE J800 APR 86, "Motor Vehicle Seat Belt Assembly Installations".

b. Where wearing seat belts is impracticable, restraining devices such as shoulder belts, bars, gates, screens, or

other similar devices designed to prevent the operator and passengers from being thrown outside the rollover protective structure (OHS Act General Reg, Sec. 221(1)).

9. An employer must ensure that welding on a rollover protective structure or a falling objects protective structure is done by a welder who holds at least a Class B welder's certificate of qualification under the Boiler and Pressure Vessel Act or by a welder employed by a company certified to CSA standard W47.1-09 (R2019), "Certification of companies for fusion welding of steel" or a standard offering equivalent or better protection (OHS Act General Reg, Sec. 222).
10. An employer must ensure that glazing used as part of an enclosure for a cab, canopy or rollover protective structure on powered mobile equipment:

a. Meets SAE standard J674-NOV90, "Safety Glazing Materials – Motor Vehicles".
b. Is immediately replaced if it presents a hazard to the operator of the equipment (OHS Act General Reg, Sec. 223(1)).

11. Rigid plastic materials meeting ANSI/SAE standard Z26.1-1996, "American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways – Safety Standard" may be used in all areas on a rollover protective structure, including the front windshield (OHS Act General Reg, Sec. 223(2)).
12. An employer must ensure that powered mobile equipment:

a. Is used only for the purposes for which it's designed and equipped.
b. Is operated by a competent employee.
c. Is equipped with adequate brakes.
d. Is equipped with a manually operated horn.
e. Has a rearview mirror or other means of ensuring that the equipment can be safely backed up.

f. Is equipped with an audible back-up alarm that operates automatically when the equipment is in reverse and is clearly audible above the background noise.
g. Is equipped with adequate headlights and taillights when used after dark or in dimly lit areas.
h. Has gears and moving parts adequately guarded.
i. Has controls that cannot be operated from outside the cab unless the controls are designed to be operated from outside the cab.
j. Has any load on it adequately secured.
k. Is provided with a three-point contact to access the operator's cab (OHS Act General Reg, Sec. 224).

13. Employer must ensure that a skidder or forwarder used in a logging operation is provided with a completely enclosed operator's cab designed to prevent objects from intruding into the cab and prevent the operator and any passengers in the cab from being thrown outside the cab (OHS Act General Reg, Sec. 225).
14. An employer must designate an employee to give signals to an operator of powered mobile equipment who's backing up the equipment and not able to see clearly behind the equipment and the operator must back up the equipment only on signals from the designated employee (OHS Act General Reg, Sec. 226).
15. Where work with powered mobile equipment is carried out in an area where dust may create a hazard to employees because of poor visibility, an employer and a contractor, if any, must each take such measures with respect to the dust as are sufficient to protect employees from the risk of injury (OHS Act General Reg, Sec. 227).
16. An operator of powered mobile equipment must:

a. Ensure that a person doesn't ride on any part of the equipment not designed to carry passengers.
b. Not set equipment in motion until all air and hydraulic pressures are fully built up to specified operating pressures.

c. When leaving the equipment unattended:

i. Park it on level ground.
ii. Set the brake.
iii. Lower the blades and bucket or safely block them.
iv. Disengage the master clutch.
v. Stop the engine.
vi. Remove the key.

d. Follow a safe re-fueling procedure.
e. Not store containers of gasoline, diesel oil, or other flammable substances in the cab.
f. Not carry loose articles in the cab.
g. Keep the equipment in gear when going downhill (OHS Act General Reg, Sec. 228).

17. An employer must ensure that powered mobile equipment:

a. Is maintained in safe working condition.
b. Has defective parts repaired or replaced before being set in motion.
c. Has air and hydraulic lines, hoses and components maintained in safe operating condition.
d. Has wire ropes, drums, and sheaves inspected visually on a daily basis by the operator of the equipment and inspected visually and physically by a competent person on a weekly basis.
e. Is lubricated only when at rest or as the manufacturer directs (OHS Act General Reg, Sec. 229(1)).

18. An employer must ensure that when a tire for powered mobile equipment is installed and inflated on a rim, a safety cage, or other restraining device is used for the tire and the rim, and that other appropriate precautionary measures are followed to protect employees from the hazard of the tire exploding (OHS Act General Reg, Sec. 229(1.1)).
19. An employer must ensure that powered mobile equipment and detachments for powered mobile equipment that are raised from

the ground by means of a hoisting apparatus are adequately blocked (OHS Act General Reg, Sec. 229(2)).
20. An employer must ensure that an employee does not work under or go under the raised parts of any powered mobile equipment unless the parts are adequately blocked and no employee may work under or go under such raised parts unless the parts are adequately blocked (OHS Act General Reg, Sec. 229(3)).
21. If repair or maintenance work is carried out at the point of articulation on front end loaders or similar powered mobile equipment, an employer must ensure that lock bars are used to prevent movement of either end of the loader or similar equipment (OHS Act General Reg, Sec. 229(4)).
22. No person may alter any powered mobile equipment so as to render ineffective a safety device installed on the equipment (OHS Act General Reg, Sec. 229.1(1)).
23. Exception: A person may alter powered mobile equipment so as to render ineffective a safety device installed on the equipment if the alteration is certified in writing by the manufacturer of the safety device or an engineer as affording protection equal to or greater than the protection afforded by the safety device (OHS Act General Reg, Sec. 229.1(2)).
24. An operator must not use, and an employer must not permit to be used, any powered mobile equipment if the equipment has been altered so as to render ineffective a safety device installed on the equipment (OHS Act General Reg, Sec. 229.1(3)).
25. The above Item #24 doesn’t apply where the alteration has been certified in writing by the manufacturer of the safety device or an engineer as affording protection equal to or greater than the protection provided by the safety device (OHS Act General Reg, Sec. 229.1(4)).
26. An operator of powered mobile equipment must check for the effectiveness of all safety devices daily before operating the equipment (OHS Act General Reg, Sec. 229.2(1)).
27. If more than one operator uses powered mobile equipment in the course of a day or if the powered mobile equipment is used

on more than one shift, each operator must check for the effectiveness of all safety devices before operating the equipment (OHS Act General Reg, Sec. 229.2(2)).
28. Where powered mobile equipment is used on a slope or bank which may give way, an employer must ensure that adequate precautions are taken to stabilize the bank and to distribute the load of the equipment (OHS Act General Reg, Sec. 230).
29. Where powered mobile equipment is used to push material into a body of water, pit, excavation, or other cavity, an employer must ensure that a berm is created between the equipment and the water, pit, excavation or other cavity to indicate to the operator the safe limit to which the powered mobile equipment may advance, and an operator of powered mobile equipment must not advance the equipment past the berm (OHS Act General Reg, Sec. 230.1(2)).
30. Where powered mobile equipment is used to push material into a frozen body of water, an employer and an operator must each ensure that the ice is broken before any material is pushed into the water (OHS Act General Reg, Sec. 230.1(3)).

NEWFOUNDLAND & LABRADOR

1. Mobile equipment must be maintained in safe operating condition and operation, inspection, repair, maintenance, and modification must be carried out in accordance with the manufacturer's instructions or, in the absence of instructions, as approved by a registered professional engineer (OHS Regs, Sec. 251(1)).
2. Servicing, maintenance, and repair of mobile equipment must be done:

    a. When the equipment is not in operation; or
    b. When the equipment is in operation, where continued operation is essential to the process and a safe means is provided (OHS Regs, Sec. 251(2)).

3. The design, fabrication, use, inspection, and maintenance

of mobile equipment must meet the requirements of the following applicable standard or other standards acceptable to the minister (OHS Regs, Sec. 251(3)):

Equipment	Applicable Standard
Mobile and Locomotive Cranes	CSA Standard Z150, “Safety Code for Mobile Cranes”
Vehicles with Mounted Aerial Devices (except firefighting equipment)	CSA Standard C225 “Vehicle-Mounted Aerial Devices”
Vehicles with Mounted Aerial Devices (fire fighting equipment)	NFPA 1911 “Standard for Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, 2007 Edition”
Safety and Hazard Warnings	ISO Standard 9244:1995 “Earth moving machinery – safety signs and hazard pictorials – General principles
Lift Truck and Associated Operator training	CSA Standard B335 “Safety Standard for Lift Trucks”

4. Maintenance and inspection records must be maintained and made reasonably available to the operator and maintenance personnel during work hours (OHS Regs, Sec. 251(4)).

5. Mobile equipment used off maintained roads must be appropriate and safe for the intended use taking into account factors including the nature of the travel surface and its slope and the activities to be undertaken (OHS Regs, Sec. 251(5)).

6. Adequate and approved fire suppression equipment must be provided where required by the minister (OHS Regs, Sec. 251(6)).

7. A person must not operate mobile equipment unless the person:

    a. Has received adequate instruction and demonstrated to a supervisor or instructor the person is a competent equipment operator.

b. Has been authorized to operate mobile equipment.
c. Is familiar with the operating instructions for particular equipment before the person attempts to operate it.
d. Has, where required to operate an air brake equipped vehicle, evidence of successful completion of a course on air brake systems issued by an organization acceptable to the minister (OHS Regs, Sec. 252(1)).

8. The above Item #7 doesn't apply where a trainee operates the equipment under the supervision of a qualified instructor or supervisor as authorized by the employer (OHS Regs, Sec. 252(2)).

9. The operator of mobile equipment must operate the equipment safely, maintain full control of the equipment, and comply with the laws governing the operation of the equipment, and also ensure that a worker is not in close proximity to the swing radius of the equipment while it's in operation (OHS Regs, Sec. 253).

10. A supervisor must not knowingly operate, or permit a worker to operate, mobile equipment which is, or which could create, an undue hazard to the health or safety of a person, or which is in violation of the OHS regulations (OHS Regs, Sec. 254).

11. Mobile equipment must be equipped with an audible warning signal device as follows:

a. Where the mobile equipment is capable of a forward speed exceeding 8 kilometres an hour.
b. Where mobile equipment operates in reverse motion, it must be equipped with a suitable audible warning device that initiates automatically when the equipment starts to move in reverse and which continues to operate while the equipment is moving in reverse.
c. Where the mobile equipment is not capable of speeds

greater than 8 kilometres an hour, the minister may, in exceptional circumstances, order the use of an audible warning device (OHS Regs, Sec. 255(1)).

12. Where an audible warning device can’t be clearly heard or identified above the noise of other equipment or surrounding noise, another warning device or measure must be utilized (OHS Regs, Sec. 255(2)).

13. Mobile equipment used during the period from 1/2 hour after sunset to 1/2 hour before sunrise, or when a person or vehicle is not clearly discernible at a distance of 150 metres must have and use light to adequately illuminate: the direction of travel; the working area about the mobile equipment; and the cab instruments (OHS Regs, Sec. 256(1)).

14. A headlight and backing light required by Item #13 above must meet Society of Automotive Engineers (SAE) J1029 MAR 86 “Lighting and Marking of Construction and Industrial Machinery” (OHS Regs, Sec. 256(2)).

15. Mobile equipment must have a mirror providing the operator with an undistorted reflected view to the rear of the mobile equipment or combination of mobile equipment, except that a combination of parabolic and flat mirrors may be used where necessary to improve rear vision a combination of parabolic and flat mirrors may be used (OHS Regs, Sec. 257).

16. Buckets, forks, booms, hoists, and other load handling attachments may only be installed on mobile equipment as specified by the equipment manufacturer or where certified by a professional engineer for use on the equipment (OHS Regs, Sec. 258).

17. Mobile equipment designed and used for lifting, hoisting, or similar operations must have a permanently affixed notation, legible and visible to the operator, stating the rated load of the equipment (OHS Regs, Sec. 259(1)).

18. A load chart must be displayed in the operator's cab where the rated load varies with the reach of the equipment (OHS Regs, Sec. 259(2)).

19. An equipment operator must be protected against falling, flying or intruding objects or materials by means of a suitable cab, screen, grill, deflector, or guard that meets the design criteria of the Society of Automotive Engineers applicable recommended practice (OHS Regs, Sec. 260(1)).

20. A worker must not remain in the cab of a vehicle while loads are elevated over the cab unless the cab is protected by an adequate overhead guard (OHS Regs, Sec. 260(2)).

21. The following types of mobile equipment weighing 700 kilograms or more must have rollover protective structures ("ROPS"):

a. Crawler tractors, dozers, loaders, and skidders.
b. Wheeled tractors, dozers, loaders, and skidders.
c. Motor graders.
d. Self-propelled wheel scrapers.
e. Agricultural and industrial tractors.
f. Compactors and rollers.
g. Self-propelled rock drills moved by an on-board operator (OHS Regs, Sec. 261(1)).

22. The minister may require a rollover protective structure to be installed on mobile equipment, other than mobile equipment listed above, where the design of the equipment or circumstances of use indicate the need (OHS Regs, Sec. 261(2)).

23. A rollover protective structure must meet the requirements of one of the following applicable standards or other standard acceptable to the minister:

a. CSA Standard B352.0-95 "Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving,

Forestry, Industrial, and Mining Machines – Part 1: General Requirements",

i. CSA Standard B352.1-95 "Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 2: Testing Requirements for ROPS on Agricultural Tractors", or
ii. CSA Standard B352.2-95 "Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 3: Testing Requirements for ROPS on Construction, Earthmoving, Forestry, Industrial, and Mining Machine".

b. Society of Automotive Engineers (SAE) Standard J1040 MAY 94 "Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry, and Mining Machines".
c. ISO Standard 3471: 1994 "Earth-moving Machinery – Rollover Protective Structures – Laboratory Tests and Performance Requirements" (OHS Regs, Sec. 262).

24. A rollover protective structure must be certified by the manufacturer or a professional engineer as meeting a standard specified in Item 23 above (OHS Regs, Sec. 263(1)).

25. An addition, modification, welding, or cutting on a rollover protective structure must be done in accordance with the instructions of, and be recertified by, the manufacturer or a professional engineer (OHS Regs, Sec. 263(2)).

26. The following information must be permanently marked upon a rollover protective structure:

a. The name and address of the manufacturer or the professional engineer who certified the rollover protective structure.
b. The model number or other effective means of identifying

the machine for which the rollover protective structure was designed.
c. The serial number or other unique means of identifying the rollover protective structure.
d. The maximum weight of the machine for which the rollover protective structure was designed.
e. The standard to which the rollover protective structure conforms (OHS Regs, Sec. 264(1)).

27. A modified rollover protective structure must be permanently marked with the following information:

a. An identification of the modifications effected.
b. The date of recertification.
c. The name and address of the recertifying engineer (OHS Regs, Sec. 264(2)).

28. A rollover protective structure or other structure required for the protection of the operator must be designed and installed to provide an adequate view to allow the operator to safely use the machine (OHS Regs, Sec. 265).

29. A well designed and constructed, safely located and securely mounted seat and seat belt or other safe facilities must be provided for the operator of powered mobile equipment and a passenger (OHS Regs, Sec. 266(1))—Exception: This requirement doesn’t apply to does not apply to mobile equipment designed to be controlled by an equipment operator in a standing position.

30. Safe facilities for an equipment operator include:

a. Footboards or platforms upon which the workers stand or sit, located to protect workers from accidental contact.
b. Handholds.
c. Safety-belts, harnesses, guardrails, or other effective means of restraint (OHS Regs, Sec. 266(2)).

31. Where mobile equipment is equipped with seatbelts, in

conformity with these regulations or other applicable federal or provincial legislation, the installations must be maintained and they must be worn by the equipment operator and passengers at all times while the equipment is in motion, or when operated in a stationary mode (OHS Regs, Sec. 266(4)).

32. Where a road grader is operated with cab doors open, and the equipment operator is necessarily in a standing position and unable to comply with Item 31 above, additional restraining devices approved by the minister must be installed and used to prevent occupants from falling from the cab (OHS Regs, Sec. 266(5)).

33. Where an equipment operator is required to operate in a standing position, there must be protection provided equivalent to the protection required under Item 32 above in the form of a restraining harness designed to prevent the equipment operator being thrown from the cab in a roll-over situation, but the restraining harness must have a quick release device (OHS Regs, Sec. 266(6)).

34. An operator must inspect the mobile equipment before the start of operation on the shift and after that where required to ensure the safe operating condition of the equipment and a defect or other condition affecting the safe operation of the equipment must be reported immediately to the supervisor or employer (OHS Regs, Sec. 267(1)).

35. A repair or adjustment necessary for the safe operation of the equipment must be made before the equipment is used (OHS Regs, Sec. 267(2)).

36. An operator must maintain the cab, floor, and deck of mobile equipment free of material, tools, or other objects which could create a tripping hazard, interfere with the operation of controls, or be a hazard to the operator or other occupants in the event of an accident (OHS Regs, Sec. 268).

37. An operator of mobile equipment must not leave the

controls unattended unless the equipment has been secured against inadvertent movement, including by setting the parking brake, placing the transmission in the manufacturer's specified park position and by chocking wheels where necessary, and buckets and blades must be landed in a safe position before equipment controls are left unattended (OHS Regs, Sec. 269).

38. An elevated load, part, extension, or machine, must not be left unattended by an operator unless it has been immobilized and secured against inadvertent movement (OHS Regs, Sec. 270(1)).

39. Where a worker is required to work beneath an elevated part of mobile equipment, the elevated part must be securely blocked (OHS Regs, Sec. 270(2)).

40. A hydraulic or pneumatic jack must not be used for blocking unless it's been fitted with a device to prevent collapse in the event of loss of hydraulic or pneumatic pressure (OHS Regs, Sec. 270(3)).

41. Where the swinging movement of a load, cab, counterweight, or other part of mobile equipment creates a hazard, a worker must not be within range of the swinging load or equipment, and the operator must not move the equipment when a worker is so exposed (OHS Regs, Sec. 271).

42. Where a mobile equipment operator's view of the work area is obstructed, the operator must not move the equipment until precautions have been taken to protect the operator and another worker from injury, including:

a. Immediately before the movement, the inspection by the operator on foot of the area into which the equipment is being moved.
b. Direction by a signaller:

(i) Stationed in a safe position in continuous view

of the operator,
(ii) Having an unobstructed view of the area into which the equipment is being moved, and
(iii) Not being otherwise occupied while the equipment is in motion.

c. Direction by a traffic control or warning system (OHS Regs, Sec. 272).

43. Guy lines passing over travelled roads must be rigged at a sufficient height to clear all traffic (OHS Regs, Sec. 273(1)).

44. Guy lines which are not at sufficient height to clear all traffic must be clearly identified in accordance to standards acceptable to the minister (OHS Regs, Sec. 273(2)).

45. Where practicable, designated walkways must be used to separate pedestrian traffic from areas of operation of mobile equipment (OHS Regs, Sec. 274(1)).

46. If it’s impracticable to provide designated walkways, adequate safe work procedures to minimize the possibility of collision must be used in hazardous work areas, including:

a. Use of a traffic control system.
b. Enforcement of speed limits for mobile equipment.
c. A requirement for the pedestrian and the mobile equipment operator to acknowledge each other’s presence before the pedestrian proceeds through the hazardous area.
d. Other effective means (OHS Regs, Sec. 274(2)).

47. Material or equipment being transported must be loaded or secured to prevent movement of the load which could create a hazard to workers (OHS Regs, Sec. 275(1)).

48. To protect the crew of a vehicle transporting a load which may shift on rapid deceleration, a means of load restraint must be provided that prevents significant load shift relative

to the carrier under emergency stopping conditions, and meets a standard acceptable to the minister (OHS Regs, Sec. 275(2)).

49. Cylindrical objects transported on their sides must be effectively restrained against inadvertent movement (OHS Regs, Sec. 276).

50. A unitized load transported on a lift truck must not project a distance greater than half its height above the fork carriage, back rest, or back rest extension of the lift truck (OHS Regs, Sec. 277(1)).

51. No part of a load comprised of loose objects may project above the fork carriage, back rest. or back extension of a lift truck (OHS Regs, Sec. 277(2)).

52. A load which could shift during transportation must be restrained where shifting would result in the instability of the load or the lift truck (OHS Regs, Sec. 277(3)).

53. An employer must:

a. Establish and implement safe work procedures for servicing mobile equipment, tires, rims and wheels, including:
(i) Inspecting tire, rim, and wheel components.
(ii) Mounting a tire to the rim and wheel and inflating a tire.
(iii) Installing and removing tire assemblies from mobile equipment.
(iv) Demounting tires from the rim and wheel assemblies.

b. Ensure that tire limits aren’t exceeded (OHS Regs, Sec. 278(1)).

54. A worker assigned to work on tires, rims and wheels must be trained in and follow the safe work procedures established under Item 53 above (OHS Regs, Sec. 278(2)).

55. A tire must be deflated before demounting, and deflation

must be done in an area where ignition sources are controlled or removed (OHS Regs, Sec. 279(1)).

56. A tire, rim, and wheel part must be cleaned and inspected for damage before mounting, and a cracked, broken, bent or otherwise damaged part replaced (OHS Regs, Sec. 279(2)).

57. A tire must be inflated using a remote chuck with a sufficient length of hose and an inline, hand operated valve with a gauge so the worker is outside the likely trajectory should wheel components separate during inflation (OHS Regs, Sec. 279(3)).

58. A tire mounted on a multipiece rim wheel must be placed in a cage or other restraining device when it’s being inflated (OHS Regs, Sec. 279(4)).

59. Any bead expander used to seat the beads of a tire must be removed before the tire is inflated to more than 34.5 kPa (5 psi) (OHS Regs, Sec. 279(5))

60. Welding or heating on an assembled rim or wheel part is not permitted, except that limited heating to facilitate removal of a wheel from a hub is acceptable after the tire has been deflated by removing the valve core (OHS Regs, Sec. 279(6)).

61. A tire on a multipiece rim wheel must be deflated to atmospheric pressure by removing the valve core or by other effective means before demounting, and in the case of a dual wheel arrangement, both tires must be deflated to atmospheric pressure before a wheel nut is loosened (OHS Regs, Sec. 279(7)).

62. Multipiece rim and wheel components may not be interchanged except as permitted by rim/wheel charts from the appropriate rim/wheel manufacturer (OHS Regs, Sec. 279(8)).

63. A multipiece rim wheel which has been used at less than

80% of the recommended inflation pressure for that application must be deflated, disassembled, and inspected before reinflation (OHS Regs, Sec. 279(9)).

NOVA SCOTIA

1. An employer must ensure that a hoist, lift truck or powered mobile equipment is erected, installed, assembled, started, operated, used, handled, stored, stopped, inspected, serviced, tested, cleaned, adjusted, maintained, repaired, modified, and dismantled in accordance with the manufacturer's specifications, or the specifications certified by an engineer (Occ Safety Gen Regs, Sec. 55).
2. An employer must ensure that a hoist, lift truck or powered mobile equipment:

    a. Is operated by a competent person.
    b. Has gears and moving parts securely guarded by adequate means where necessary to prevent a hazard to a person in the workplace.
    c. Has any load on it adequately secured where necessary to prevent a hazard to a person in the workplace.
    d. Is provided with safe means of access and exit from the operator's position and any passenger's position (Occ Safety Gen Regs, Sec. 56).

3. An employer must designate one or more competent persons as a signaler to direct the safe movement of a load, hoist, lift truck or powered mobile equipment where the operator of that hoist, lift truck, or powered mobile equipment:

    a. Doesn't have an adequate view of the load.
    b. Doesn't have a clear view of the route the load is to take.
    c. Isn't able to see clearly around the equipment when moving and has not taken measures sufficient to ensure that no person is exposed to a hazard as a result of the movement of equipment.

d. Isn’t able to see clearly where the hoist or its load may encroach the minimum distance specified in Section 126 of the Regs. or a hoist is positioned closer than the length of its boom to an overhead energized power line or power line equipment.
e. Is causing the equipment to move under its own power from one location to another and the situation creates a hazard in the workplace (Occ Safety Gen Regs, Sec. 57(1)).

4. A signaler must:

a. Be readily identifiable to the operator.
b. Direct the movement of a load or equipment by a well understood distinctive code of hand signals or another effective communication system.
c. Warn the operator each time:

i. Any part of the hoist or its load may encroach on the minimum distance specified in Section 126.
ii. The hoist is positioned closer than the length of its boom from an overhead energized power line or power line equipment.

d. Obtain the assistance of another signaler if all or part of the view of the load or route is obstructed from both the signaler and the operator (Occ Safety Gen Regs, Sec. 57(2)).

5. An operator of a hoist, lift truck or powered mobile equipment in a situation referred to in Item #3 above must move a load only on a signal from a signaler (Occ Safety Gen Regs, Sec. 57(3)).
6. An employer must ensure that a mobile crane, lift truck or powered mobile equipment is equipped with:

a. An audible back-up alarm that operates automatically when the vehicle is in reverse gear, and is clearly audible above the background noise at the workplace, or that another means of protection or warning that provides an

equivalent level of safety is used.
b. A manually operated horn, unless such a horn wasn’t installed at the time of manufacture.
c. Adequate front and rear lights when the equipment is used after dark or in dimly lit areas.
d. An adequate braking system.
e. A screen, shield, grill, deflector, guard, or other adequate protection for the operator, where the operator may be exposed to the hazard of flying or intruding objects (Occ Safety Gen Regs, Sec. 58).

7. An employer must ensure that a hoist or powered mobile equipment that is equipped with outriggers or stabilizers is operated with the outriggers or stabilizers engaged, unless the manufacturer’s specifications permit otherwise (Occ Safety Gen Regs, Sec. 59).
8. An employer must ensure that a hoist, lift truck or powered mobile equipment is not altered in such a way as to render ineffective a safety device or control, except where the change has been certified in writing by the manufacturer or an engineer to afford protection equal to or greater than the protection afforded by the original safety device or control (Occ Safety Gen Regs, Sec. 60).
9. An employer must take adequate precautions to ensure that a hoist, lift truck, or powered mobile equipment doesn’t tip or roll over (Occ Safety Gen Regs, Sec. 61).
10. If an employee who’s an operator of powered mobile equipment is exposed to a hazard from falling objects, an employer must ensure that the powered mobile equipment is equipped with a protective structure adequate for the conditions in which the equipment is being used and that meets the requirements of the latest version of the applicable standard listed below or that is certified by an engineer or the manufacturer to provide equivalent or better protection:

a. SAE standard SAE J167, “Overhead Protection for Agricultural Tractors – Test Procedures and Performance

Requirements".

b. International Organization for Standardization (ISO) 3449, "Earth-moving machinery – Falling-object protective structures – Laboratory tests and performance requirements".

c. SAE standard SAE J397, "Deflection Limiting Volume – Protective Structures Laboratory Evaluation".

d. SAE standard SAE J1042, "Operator Protection for General-Purpose Industrial Machines".

e. SAE standard SAE J1084, "Operator Protective Structure Performance Criteria for Certain Forestry Equipment" (Occ Safety Gen Regs, Sec. 62(1)).

11. An employer must ensure that modifications, alterations or repairs made to a falling objects protective structure that affect the structural integrity of the structure meet the requirements of Section 62 of the Regs. (Items #10, #11 +#12) and that the designing agency, installing agency or an engineer certifies that modifications, alterations or repairs also meet the requirements of Section 62 (Occ Safety Gen Regs, Sec. 62(2)).

12. An employer must ensure that welding on a falling objects protective structure that affects the structural integrity of the structure is performed by a competent person (Occ Safety Gen Regs, Sec. 62(3)).

13. An employer must ensure that, where reasonably practicable, powered mobile equipment and lift trucks manufactured on or after January 1, 1974, are equipped with rollover protective structures that meet the minimum safety requirements of the latest versions of the following standards:

a. CSA standard B352.0, "Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 1: General Requirements" or is certified by an engineer or the manufacturer to provide equivalent or better protection.

b. Where applicable, CSA standard B352.1, “Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 2: Testing Requirements for ROPS on Agricultural Tractors”, or is certified by an engineer or the manufacturer to provide equivalent or better protection.
c. Where applicable, CSA standard B352.2, “Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 3: Testing Requirements for ROPS on Construction, Earthmoving, Forestry, Industrial, and Mining Machines”, or is certified by an engineer or the manufacturer to provide equivalent or better protection (Occ Safety Gen Regs, Sec. 63(1)).

14. Where reasonably practicable, an employer must ensure that powered mobile equipment or lift trucks manufactured before January 1, 1974 are equipped with rollover protective structures that meet the requirements of Item #13 above or:

a. A rollover protective structure and supporting attachments are designed, fabricated and installed so as to support no less than twice the weight of the equipment, based on the ultimate strength of the material and integrated loading of the supporting members with the resultant load applied at the point of impact.
b. There’s a vertical clearance of 1320 mm between the deck and the rollover protective structure at the access openings.
c. The rollover protective structure and supporting attachments referred to in clause (a) are certified as meeting the requirements of clause (a) by the manufacturer of the rollover protective structure, the installing agency or an engineer (Occ Safety Gen Regs, Sec. 63(2)).

15. An employer must ensure that modifications, alterations or repairs made to a rollover protective structure that affect

the structural integrity of the structure meet the above requirements and that the designing agency, the installing agency or an engineer certifies that modifications, alterations or repairs meet the above requirements (Occ Safety Gen Regs, Sec. 63(3)).

16. An employer must ensure that welding on a rollover protective structure that affects the structural integrity of the structure is performed by a competent person (Occ Safety Gen Regs, Sec. 64).

17. An employer must ensure that powered mobile equipment and lift trucks fitted with rollover protective structures have:

a. Seatbelts for the operator and passengers that comply with or exceed the latest version of the applicable SAE standard listed below:

i. SAE J386, “Operator Restraint System for Off-Road Work Machines”.
ii. SAE J800, “Motor Vehicle Seat Belt Assembly Installation”.

b. Where wearing seat belts is not reasonably practicable, restraining devices such as shoulder belts, bars, gates, screens, or other similar devices designed to prevent the operator and passengers from being thrown outside the rollover protective structure (Occ Safety Gen Regs, Sec. 65(1)).

18. An operator of and passengers on powered mobile equipment or a lift truck must use the seat belts or restraining devices referred to above while the equipment is in motion (Occ Safety Gen Regs, Sec. 65(2)).

19. An employer must ensure that glazing or rigid plastic materials used as part of an enclosure for a cab, canopy or rollover protective structure on a hoist, lift truck, or powered mobile equipment is adequate in the circumstances where it’s used, and is immediately replaced if it presents a hazard, including permanent interference with visibility (Occ

Safety Gen Regs, Sec. 66).

20. Unless otherwise authorized by an enactment, no person may operate a lift truck or powered mobile equipment with passengers on the truck or equipment, unless the manufacturer's specifications for the truck or equipment state that the truck or equipment is designed to accommodate them safely (Occ Safety Gen Regs, Sec. 67(1)).

21. An employer must ensure that powered mobile equipment and lift trucks with an internal combustion engine are provided with fire protection equipment adequate for the hazards of the equipment or vehicles (Occ Safety Gen Regs, Sec. 67(2)).

22. An employer must either:

a. Ensure that mirrors or other devices are installed and maintained at blind intersections where there may be a danger of a collision between a lift truck or powered mobile equipment and another object or a person.

b. Establish a written procedure that provides an equivalent level of safety (Occ Safety Gen Regs, Sec. 67(3)).

23. Where work with a hoist, lift truck, or powered mobile equipment is carried out in an area where dust may create a hazard to a person in the workplace because of poor visibility, an employer must take steps to reduce the amount of dust in the air so as to protect a person from the risk of injury (Occ Safety Gen Regs, Sec. 68).

24. An operator of a mobile crane, where applicable, a lift truck or powered mobile equipment must:

a. Not set equipment in motion until all air and hydraulic pressures are fully built up at specified operating pressures.

b. When leaving the equipment unattended:

i. Park it on level ground, if reasonably practicable.

ii. Set the parking brake.

iii. Lower the blades, bucket or other attachment or

safely block the attachment.
iv. Where applicable, disengage the master clutch.v. Shut off the engine or take other precautions to ensure the equipment is not inadvertently set in motion.

c. Not carry containers of gasoline, diesel oil or other flammable substances, classified as Class B substances under the Hazardous Products Act (Canada), in the part of the equipment where a person rides.
d. Ensure that there are no loose articles that may present a hazard in the part of the equipment where a person rides (Occ Safety Gen Regs, Sec. 69).

25. An employer must ensure that a hoist, lift truck or powered mobile equipment that has wire ropes, drums and sheaves is inspected:

a. Visually on a daily basis by the operator of the equipment.
b. Visually and manually by a competent person on a weekly basis (Occ Safety Gen Regs, Sec. 70(1)).

26. An employer must ensure that, where a person works under a hoist, lift truck, or powered mobile equipment that’s raised from the ground, the equipment is provided with blocking or other adequate means of support in case the means of lifting the equipment fails (Occ Safety Gen Regs, Sec. 70(2)).
27. Where repair or maintenance work is carried out at the point of articulation on an articulated truck, front end loader or other articulated equipment, an employer must ensure that lock bars or an equivalent measure is used to prevent movement of either end of the truck, loader or equipment (Occ Safety Gen Regs, Sec. 71).
28. An employer must ensure that a lift truck is designed, constructed, maintained, inspected, and operated in accordance with the latest version of the applicable standard listed below:

a. CSA standard CSA B335, “Safety standards for lift trucks”.
b. ANSI standard ANSI/ITSDF B56.1, “Safety Standard for Low Lift and High Lift Trucks”.
c. ANSI standard ANSI/ITSDF B56.6, “Safety Standard for Rough Terrain Forklift Trucks” (Occ Safety Gen Regs, Sec. 81(1)).

29. An employer must ensure that every supervisor and operator of a lift truck has been provided with the necessary information, instruction, training, supervision, facilities, and equipment required for the safe operation of the equipment in accordance with the standards in Item #28 as applicable (Occ Safety Gen Regs, Sec. 81(2)).
30. An employer must ensure that a lift truck is operated in a manner that won’t endanger a person (Occ Safety Gen Regs, Sec. 82(1)).
31. Where a lift truck is propelled by an internal combustion engine in a building or other enclosed structure, the employer must ensure adequate ventilation, monitoring, and record keeping practices are carried out to ensure exposure from exhaust gases doesn’t exceed the occupational exposure limit for the gas under Part 2: Occupational Health, of the Workplace Health and Safety Regulations under the OHS Act (Occ Safety Gen Regs, Sec. 81(1A)).
32. An employer must ensure that where a lift truck is operated:

a. In a one-way aisle, the width of the aisle equals at least the width of the vehicle or load being carried, whichever is wider, plus 600 mm; and
b. In a two-way aisle, the width of the aisle equals at least twice the width of the vehicle or load being carried, whichever is wider, plus 900 mm (Occ Safety Gen Regs, Sec. 81(2)).

33. An employer must ensure that a lift truck propelled by propane has all engine and fuel components designed,

assembled, examined, inspected, operated, and maintained in accordance with the latest version of CSA standard CSA B149.2, “Propane Storage and Handling Code” (Occ Safety Gen Regs, Sec. 81(3)).

NORTHWEST TERRITORIES

1. An employer must ensure that only competent workers operate powered mobile equipment or are required or permitted to operate that equipment (OHS Regs, Sec. 162).

2. An employer must ensure that, before a worker starts powered mobile equipment, the worker makes a complete visual inspection of the equipment and the surrounding area to ensure a worker isn’t endangered by the start-up of the equipment (OHS Regs, Sec. 163(1)).

3. A worker must not start powered mobile equipment until the above-required inspection is completed (OHS Regs, Sec. 163(2)).

4. An employer or supplier must ensure that powered mobile equipment at a work site is inspected:

    a. By a competent worker for defects and unsafe conditions; and
    b. As often as necessary to ensure that the equipment is capable of safe operation (OHS Regs, Sec. 164(1)).

5. If a defect or unsafe condition is identified in powered mobile equipment, an employer or supplier must:

    a. Take immediate steps to protect the health and safety of each worker at risk until the defect is repaired or the condition is corrected; and
    b. Repair the defect or correct the unsafe condition as soon as reasonably possible (OHS Regs, Sec. 164(2)).

6. An employer or supplier must, at a work site, keep a record

of inspections and maintenance carried out under this section, and make the records readily available to each operator of the powered mobile equipment (OHS Regs, Sec. 164(3)).

7. An employer or supplier must ensure that each unit of powered mobile equipment is equipped with:

a. A device within easy reach of an operator that will permit the operator to stop as quickly as possible any ancillary equipment driven from the powered mobile equipment, including any power take-off, crane and auger and any digging, lifting and cutting equipment.
b. An audible or visual warning device adequate to warn other workers of the operation of the powered mobile equipment.
c. Seats designed and installed to ensure the safety of each worker in or on the powered mobile equipment unless the equipment is designed to be operated from a standing position; and
d. An effective braking system and an effective parking device (OHS Regs, Sec. 165(1)).

8. If a unit of powered mobile equipment is operated during hours of darkness in an area that’s not sufficiently illuminated, an employer or supplier must ensure that the unit is equipped with suitable headlights and backup lights that clearly illuminate the path of travel (OHS Regs, Sec. 165(2)).

9. If a unit of powered mobile equipment has a windshield, an employer or supplier must ensure that the windshield is equipped with suitable windshield washers and wipers (OHS Regs, Sec. 165(3)).

10. If a unit of powered mobile equipment is fitted with rollover protective structures, an employer or supplier must ensure that the unit is equipped with:

a. Seatbelts for the operator and any other worker in or on the unit; or

b. Shoulder belts, bars, gates, screens or other restraining devices designed to prevent the operator and any other worker from being thrown outside the rollover protective structures if the work process renders the wearing of a seat belt impracticable (OHS Regs, Sec. 165(4)).

11. If there's a danger to the operator of a unit of powered mobile equipment or any other worker in or on a unit of powered mobile equipment from a falling object or projectile, an employer or supplier must ensure that the unit is equipped with a suitable and adequate cab, screen or guard (OHS Regs, Sec. 165(5)).

12. An employer or supplier must ensure that each unit of powered mobile equipment is constructed, repaired, inspected, tested, maintained, and operated in accordance with the manufacturer's specifications or an approved standard (OHS Regs, Sec. 166).

13. An employer must ensure that an operator of a unit of powered mobile equipment uses a seat belt or other restraining device (OHS Regs, Sec. 167).

14. An employer must install a bulkhead or other effective restraining device to protect the operator and any other worker in or on powered mobile equipment used to transport equipment or materials, if that equipment could shift under emergency stopping conditions and endanger the operator or other worker (OHS Regs, Sec. 168).

15. If a vehicle could be used in such a way that a worker could be endangered by an unexpected reverse movement, the employer or supplier must ensure that the vehicle is equipped with a suitable warning device that operates automatically when the vehicle or equipment starts to move in reverse (OHS Regs, Sec. 169).

16. An employer or supplier must ensure that a unit of powered

mobile equipment with an engine rated at 15 kW or more and is in any of the following categories, is not used, unless it is fitted with a rollover protective structure that meets the requirements of Item #17 below:

a. Motor grader.
b. Crawler tractor, other than one that operates with side booms.
c. Wheeled or tracked dozer and loader, other than one that operates with side booms.
d. Self-propelled wheeled scraper.
e. Self-propelled roller.
f. Compactor.
g. Rubber-tired tractor.
h. Skidder (OHS Regs, Sec. 170(1)).

17. An employer or supplier must ensure that a rollover protective structure required in accordance with Item #16 above:

a. Is designed, manufactured and installed to meet the requirements of an approved standard; and
b. Has the following information permanently and legibly marked on the structure:

i. The manufacturer’s name and address.
ii. The model and serial number.
iii. The make and model or series number of the machines that the structure is designed to fit.
iv. An identification of the standard to which the structure was designed, manufactured and installed (OHS Regs, Sec. 170(2)).

18. If a rollover protective structure required in accordance with Item #16 above is not available, an employer or supplier must ensure that a unit of powered mobile equipment is equipped with a rollover protective structure that is:

a. Designed by a professional engineer.

b. Designed and fabricated so that the structure and supporting attachments will support no less than twice the weight of the equipment to which the structure is to be fitted, based on the ultimate strength of the metal and integrated loading of structural members, with the resultant load applied at the point of impact.
c. Installed to have a vertical clearance of 1.2 m between the decks and the structures at the point of operator entrance or exit (OHS Regs, Sec. 170(3)).

19. An employer or supplier must ensure that modifications or repairs to existing rollover protective structures are certified by a professional engineer (OHS Regs, Sec. 170(5)).

20. An employer or supplier must ensure that transparent material used as part of the enclosure for a cab, canopy or rollover protective structure on powered mobile equipment is made of safety glass or another material that gives no less than equivalent protection against shattering (OHS Regs, Sec. 171(1)).

21. An employer or supplier must ensure that any defective glass or other transparent material in a cab, canopy or rollover protective structure that creates or could create a hazard is removed and replaced (OHS Regs, Sec. 171(2)).

22. If a unit of powered mobile equipment is equipped with an enclosed cab, an employer or supplier must ensure that a fuel tank located in the enclosed cab has a filler spout and vents that extend to the outside of the cab (OHS Regs, Sec. 172).

23. If a worker could be endangered by the swinging movement of a load or a part of a unit of powered mobile equipment, an employer must not require or permit the worker to remain within range of the swinging load or part (OHS Regs, Sec. 173(1)).

24. If a worker could be required or permitted to perform maintenance, testing, repairs, adjustments, or other work on

or under an elevated part of a unit of powered mobile equipment, an employer must ensure that the elevated part is securely blocked to prevent accidental movement (OHS Regs, Sec. 173(2)).

25. An operator of a unit of powered mobile equipment must not move or cause to be moved any load or part of the equipment if a worker could be endangered by that movement (OHS Regs, Sec. 173(3)).

26. An employer must ensure that a worker is not transported on a vehicle unless the worker is seated and secured by a seat belt or other restraining device designed to prevent the worker from being thrown from the vehicle while the vehicle is in motion (OHS Regs, Sec. 174(1)).

27. An employer must ensure that a worker is not transported on the top of a load that is being moved by a vehicle (OHS Regs, Sec. 174(2)).

28. An employer must ensure that a worker doesn’t place equipment or material in a compartment of a vehicle in which the operator or another worker is being transported unless the equipment or material is positioned or secured so as to prevent injury to the operator or the other worker (OHS Regs, Sec. 174(3)).

29. If an open vehicle is used to transport a worker, an employer must ensure that the worker is restrained from falling from the vehicle, and that the worker’s body doesn’t protrude beyond the side of the vehicle (OHS Regs, Sec. 174(4)).

30. An employer must ensure that:

    a. A worker is not on a ladder attached as a permanent part of an extending boom on powered mobile equipment during any movement of the equipment, including extension or retraction of the boom (Exception: this rule doesn’t apply

to firefighting equipment).
b. If outriggers are incorporated into powered mobile equipment, a worker doesn't climb a ladder attached to an extending boom unless the outriggers are deployed.
c. A worker doesn't operate powered mobile equipment equipped with an extending boom unless the powered mobile equipment is stable under all operating conditions (OHS Regs, Sec. 175(1)).

31. An employer or supplier must ensure that a forklift is:

a. Provided with a durable and clearly legible load rating chart that is readily available to the operator; and
b. Equipped with a seat belt for the operator if the forklift is equipped with a seat (OHS Regs, Sec. 176(1)).

32. An employer must ensure that the operator of a forklift uses the seat belt required by paragraph (b) above (OHS Regs, Sec. 176(2)).

NUNAVUT

1. An employer must ensure that only competent workers operate powered mobile equipment or are required or permitted to operate that equipment (OHS Regs, Sec. 162).

2. An employer must ensure that, before a worker starts powered mobile equipment, the worker makes a complete visual inspection of the equipment and the surrounding area to ensure a worker isn't endangered by the start-up of the equipment (OHS Regs, Sec. 163(1)).

3. A worker must not start powered mobile equipment until the above-required inspection is completed (OHS Regs, Sec. 163(2)).

4. An employer or supplier must ensure that powered mobile equipment at a work site is inspected:

a. By a competent worker for defects and unsafe conditions; and
b. As often as necessary to ensure that the equipment is capable of safe operation (OHS Regs, Sec. 164(1)).

5. If a defect or unsafe condition is identified in powered mobile equipment, an employer or supplier must:

a. Take immediate steps to protect the health and safety of each worker at risk until the defect is repaired or the condition is corrected; and
b. Repair the defect or correct the unsafe condition as soon as reasonably possible (OHS Regs, Sec. 164(2)).

6. An employer or supplier must, at a work site, keep a record of inspections and maintenance carried out under this section, and make the records readily available to each operator of the powered mobile equipment (OHS Regs, Sec. 164(3)).

7. An employer or supplier must ensure that each unit of powered mobile equipment is equipped with:

a. A device within easy reach of an operator that will permit the operator to stop as quickly as possible any ancillary equipment driven from the powered mobile equipment, including any power take-off, crane and auger and any digging, lifting and cutting equipment.
b. An audible or visual warning device adequate to warn other workers of the operation of the powered mobile equipment.
c. Seats designed and installed to ensure the safety of each worker in or on the powered mobile equipment unless the equipment is designed to be operated from a standing position; and
d. An effective braking system and an effective parking device (OHS Regs, Sec. 165(1)).

8. If a unit of powered mobile equipment is operated during hours of darkness in an area that’s not sufficiently

illuminated, an employer or supplier must ensure that the unit is equipped with suitable headlights and backup lights that clearly illuminate the path of travel (OHS Regs, Sec. 165(2)).

9. If a unit of powered mobile equipment has a windshield, an employer or supplier must ensure that the windshield is equipped with suitable windshield washers and wipers (OHS Regs, Sec. 165(3)).

10. If a unit of powered mobile equipment is fitted with rollover protective structures, an employer or supplier must ensure that the unit is equipped with:

a. Seatbelts for the operator and any other worker in or on the unit; or
b. Shoulder belts, bars, gates, screens or other restraining devices designed to prevent the operator and any other worker from being thrown outside the rollover protective structures if the work process renders the wearing of a seat belt impracticable (OHS Regs, Sec. 165(4)).

11. If there’s a danger to the operator of a unit of powered mobile equipment or any other worker in or on a unit of powered mobile equipment from a falling object or projectile, an employer or supplier must ensure that the unit is equipped with a suitable and adequate cab, screen or guard (OHS Regs, Sec. 165(5)).

12. An employer or supplier must ensure that each unit of powered mobile equipment is constructed, repaired, inspected, tested, maintained, and operated in accordance with the manufacturer’s specifications or an approved standard (OHS Regs, Sec. 166).

13. An employer must ensure that an operator of a unit of powered mobile equipment uses a seat belt or other restraining device (OHS Regs, Sec. 167).

14. An employer must install a bulkhead or other effective restraining device to protect the operator and any other worker in or on powered mobile equipment used to transport equipment or materials, if that equipment could shift under emergency stopping conditions and endanger the operator or other worker (OHS Regs, Sec. 168).

15. If a vehicle could be used in such a way that a worker could be endangered by an unexpected reverse movement, the employer or supplier must ensure that the vehicle is equipped with a suitable warning device that operates automatically when the vehicle or equipment starts to move in reverse (OHS Regs, Sec. 169).

16. An employer or supplier must ensure that a unit of powered mobile equipment with an engine rated at 15 kW or more and is in any of the following categories, is not used, unless it is fitted with a rollover protective structure that meets the requirements of Item #17 below:

a. Motor grader.
b. Crawler tractor, other than one that operates with side booms.
c. Wheeled or tracked dozer and loader, other than one that operates with side booms.
d. Self-propelled wheeled scraper.
e. Self-propelled roller.
f. Compactor.
g. Rubber-tired tractor.
h. Skidder (OHS Regs, Sec. 170(1)).

17. An employer or supplier must ensure that a rollover protective structure required in accordance with Item #16 above:

a. Is designed, manufactured and installed to meet the requirements of an approved standard; and
b. Has the following information permanently and legibly

marked on the structure:

i. The manufacturer’s name and address.
ii. The model and serial number.
iii. The make and model or series number of the machines that the structure is designed to fit.
iv. An identification of the standard to which the structure was designed, manufactured and installed (OHS Regs, Sec. 170(2)).

18. If a rollover protective structure required in accordance with Item #16 above is not available, an employer or supplier must ensure that a unit of powered mobile equipment is equipped with a rollover protective structure that is:

a. Designed by a professional engineer.
b. Designed and fabricated so that the structure and supporting attachments will support no less than twice the weight of the equipment to which the structure is to be fitted, based on the ultimate strength of the metal and integrated loading of structural members, with the resultant load applied at the point of impact.
c. Installed to have a vertical clearance of 1.2 m between the decks and the structures at the point of operator entrance or exit (OHS Regs, Sec. 170(3)).

19. An employer or supplier must ensure that modifications or repairs to existing rollover protective structures are certified by a professional engineer (OHS Regs, Sec. 170(5)).

20. An employer or supplier must ensure that transparent material used as part of the enclosure for a cab, canopy or rollover protective structure on powered mobile equipment is made of safety glass or another material that gives no less than equivalent protection against shattering (OHS Regs, Sec. 171(1)).

21. An employer or supplier must ensure that any defective glass or other transparent material in a cab, canopy or

rollover protective structure that creates or could create a hazard is removed and replaced (OHS Regs, Sec. 171(2)).

22. If a unit of powered mobile equipment is equipped with an enclosed cab, an employer or supplier must ensure that a fuel tank located in the enclosed cab has a filler spout and vents that extend to the outside of the cab (OHS Regs, Sec. 172).

23. If a worker could be endangered by the swinging movement of a load or a part of a unit of powered mobile equipment, an employer must not require or permit the worker to remain within range of the swinging load or part (OHS Regs, Sec. 173(1)).

24. If a worker could be required or permitted to perform maintenance, testing, repairs, adjustments, or other work on or under an elevated part of a unit of powered mobile equipment, an employer must ensure that the elevated part is securely blocked to prevent accidental movement (OHS Regs, Sec. 173(2)).

25. An operator of a unit of powered mobile equipment must not move or cause to be moved any load or part of the equipment if a worker could be endangered by that movement (OHS Regs, Sec. 173(3)).

26. An employer must ensure that a worker is not transported on a vehicle unless the worker is seated and secured by a seat belt or other restraining device designed to prevent the worker from being thrown from the vehicle while the vehicle is in motion (OHS Regs, Sec. 174(1)).

27. An employer must ensure that a worker is not transported on the top of a load that is being moved by a vehicle (OHS Regs, Sec. 174(2)).

28. An employer must ensure that a worker doesn’t place equipment or material in a compartment of a vehicle in which the operator or another worker is being transported unless the

equipment or material is positioned or secured so as to prevent injury to the operator or the other worker (OHS Regs, Sec. 174(3)).

29. If an open vehicle is used to transport a worker, an employer must ensure that the worker is restrained from falling from the vehicle, and that the worker's body doesn't protrude beyond the side of the vehicle (OHS Regs, Sec. 174(4)).

30. An employer must ensure that:

a. A worker is not on a ladder attached as a permanent part of an extending boom on powered mobile equipment during any movement of the equipment, including extension or retraction of the boom (Exception: this rule doesn't apply to firefighting equipment).
b. If outriggers are incorporated into powered mobile equipment, a worker doesn't climb a ladder attached to an extending boom unless the outriggers are deployed.
c. A worker doesn't operate powered mobile equipment equipped with an extending boom unless the powered mobile equipment is stable under all operating conditions (OHS Regs, Sec. 175(1)).

31. An employer or supplier must ensure that a forklift is:

a. Provided with a durable and clearly legible load rating chart that is readily available to the operator; and
b. Equipped with a seat belt for the operator if the forklift is equipped with a seat (OHS Regs, Sec. 176(1)).

32. An employer must ensure that the operator of a forklift uses the seat belt required by paragraph (b) above (OHS Regs, Sec. 176(2)).

ONTARIO

Industrial Establishments

1. Mobile equipment must:

    a. When lighting conditions are such that its operation may be hazardous, have head lights and tail lights that provide adequate illumination.
    b. When exposed to the hazard of falling material, have a screen or canopy guard adequate to protect the operator.
    c. Be used to transport a person, other than the operator, only when that worker is seated in a permanently installed seat.
    d. Be operated only by a competent person (unless the mobile equipment is operated by a worker who's competent while the worker is being instructed and accompanied by a competent person) (OHS Ind Establishment Regs, Sec. 54).

2. A vehicle used to transport structural steel, logs, or similar loads must have a bulkhead between the operator's cab and the load that's reasonably capable of resisting any impact caused by the shifting of the load under emergency stop conditions (OHS Ind Establishment Regs, Sec. 55).
3. Where the operator of a vehicle, mobile equipment, crane or similar material handling equipment doesn't have a full view of the intended path of travel of the vehicle, mobile equipment, crane, or similar material handling equipment or its load, the vehicle, mobile equipment, crane, or similar material handling equipment must only be operated as directed by a signaler who's a competent person and who's stationed:

    a. In full view of the operator.
    b. With a full view of the intended path of travel of the vehicle, mobile equipment, crane, or similar material handling equipment and its load.
    c. Clear of the intended path of travel of the vehicle, mobile equipment, crane or similar material handling equipment and its load (OHS Ind Establishment Regs, Sec. 56).

4. A vehicle left unattended must be immobilized and secured

against accidental movement (OHS Ind Establishment Regs, Sec. 57).
5. Powered equipment must not be left unattended unless forks, buckets, blades and similar parts are in the lowered position or solidly supported (OHS Ind Establishment Regs, Sec. 58).
6. Except for the purpose of a test of the material handling equipment, no material handling equipment may be loaded in excess of its maximum rated load (OHS Ind Establishment Regs, Sec. 59).
7. Gasoline engines on mobile or portable equipment must be refueled:

a. Outdoors.
b. With the engine on the equipment stopped.
c. With no source of ignition, within 3 metres of the dispensing point.
d. With an allowance made for expansion of the fuel should the equipment be exposed to a higher ambient temperature (OHS Ind Establishment Regs, Sec. 61).

8. Machinery, equipment, or material that’s temporarily elevated and under which a worker may pass or work must be securely and solidly blocked to prevent the machinery, equipment, or material from falling or moving (OHS Ind Establishment Regs, Sec. 74).

Construction Projects

1. All vehicles, machinery, tools and equipment must be maintained in a safe condition (OHS Const Projects Regs, Sec. 93(1)).
2. No vehicle, machine, tool, or equipment may be used:

a. While it’s defective or hazardous.
b. When the weather or other conditions make its use likely to endanger a worker.
c. While it’s being repaired or serviced, unless the repair or servicing requires that it be operated (OHS Const

Projects Regs, Sec. 93(2)).

3. All vehicles, machines, tools and equipment must be used in accordance with any operating manuals issued by the manufacturers (OHS Const Projects Regs, Sec. 93(3)).
4. For vehicles, machines, tools, and equipment rated at greater than 10 horsepower, copies of any operating manuals issued by the manufacturers must be kept readily available at the project (OHS Const Projects Regs, Sec. 93(4)).
5. All mechanically-powered vehicles, machines, tools and equipment rated at greater than 10 horsepower must be inspected by a competent worker to determine whether they can handle their rated capacity and to identify any defects or hazardous conditions (OHS Const Projects Regs, Sec. 94(1)).
6. Inspections must 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 (OHS Const Projects Regs, Sec. 94(2)).
7. Every replacement part for a vehicle, machine, tool or equipment must have at least the same safety factor as the part it's replacing (OHS Const Projects Regs, Sec. 95(1)).
8. No modification to, extension to, repair to, or replacement of a part of a vehicle, machine, tool, or equipment may result in a reduction of the safety factor of the vehicle, machine, tool, or equipment (OHS Const Projects Regs, Sec. 95(2)).
9. No worker may operate a vehicle or powered machine, tool or equipment at a project unless he or she is competent to do so; Exception: A worker being trained in the operation of a vehicle or powered machine, tool or equipment may operate it while being instructed and supervised by a competent person (OHS Const Projects Regs, Sec. 96).
10. Every vehicle other than a trailer must be equipped with brakes and a seat or other place for the vehicle operator (OHS Const Projects Regs, Sec. 97(1)).
11. No person other than the operator may ride on a vehicle unless a seat is provided for the use of, and is used by, the

person (OHS Const Projects Regs, Sec. 97(2)).
12. The means of access to any operator’s station in a vehicle, machine or equipment must not endanger the operator and must have skid-resistant walking, climbing, and work surfaces (OHS Const Projects Regs, Sec. 98).
13. A cab or screen must be provided to protect a worker who is exposed to an overhead hazard while operating a vehicle (OHS Const Projects Regs, Sec. 99).
14. No vehicle, machine, or equipment may 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 (OHS Const Projects Regs, Sec. 100(1)); Exception: This rule doesn’t apply to a vehicle being drawn or towed in which there’s an operator and that has brakes able to stop the vehicle with its load, if any (OHS Const Projects Regs, Sec. 100(2)).
15. Each means of attachment referred to above must be constructed and attached in such a way that the failure of one means of attachment doesn’t permit the vehicle, machine or equipment being drawn or towed to become detached from the other vehicle (OHS Const Projects Regs, Sec. 100(3)).
16. No worker may remain on or in a vehicle, machine or equipment while it’s being loaded or unloaded if the worker might be endangered by remaining there (OHS Const Projects Regs, Sec. 101(1)).
17. 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 must be taken (OHS Const Projects Regs, Sec. 101(2)).
18. An unattended vehicle, machine or equipment must 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 (OHS Const Projects Regs, Sec. 101(3)).
19. No operator may 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.
d. A crane or other similar hoisting device with its load raised (OHS Const Projects Regs, Sec. 102(1)).

20. Every construction project must be planned and organized so that vehicles, machines, and equipment aren't operated in reverse or are operated in reverse as little as possible (OHS Const Projects Regs, Sec. 105(1)).
21. Vehicles, machines, and equipment at a project must not be operated in reverse unless there's no practical alternative to doing so (OHS Const Projects Regs, Sec. 105(2)).
22. Operators of vehicles, machines, and equipment must be assisted by signalers if either the operator's view of the intended path of travel is obstructed or a person could be endangered by the vehicle, machine or equipment or its load (OHS Const Projects Regs, Sec. 104(3)).
23. The operator and the signaler must jointly establish and follow the procedures by which the signaler assists the operator (OHS Const Projects Regs, Sec. 104(5)).
24. If Item #22 applies to the project and it's not possible to carry out the project without some operation of vehicles and equipment in reverse, signs must be posted at the project in conspicuous places warning workers of the danger (OHS Const Projects Regs, Sec. 104(5)).

Roll-Over Protective Structures (ROPS) Regulations

1. No person may use or operate a machine unless it's equipped with a roll-over protective structure and restraining device that meets the ROPS Regs requirements (ROPS Reg, Sec. 3(1)); Exception: Restraining device isn't required on a skidder used in logging.
2. No person may use or operate a machine equipped with a restraining device unless they wear the restraining device (ROPS Reg, Sec. 3(2)).
3. Every roll-over protective structure must be designed,

constructed and maintained so that, when the machine to which it's fastened is travelling at a forward speed of 16 kilometres per hour, engages a 30 degree slope and rolls 360 degrees about its longitudinal axis on a hard clay surface:

a. The roll-over protective structure will withstand the impact forces.
b. Upon impact, no part of the roll-over protective structure will enter the space of the machine that is normally occupied by its operator.
c. The roll-over protective structure will support the machine in an upside-down attitude without any part of the roll-over protective structure entering the space of the machine that is normally occupied by its operator (ROPS Reg, Sec. 5(1)(a)).

4. Every roll-over protective structure must bear a legible label indicating:

a. The name and address of the manufacturer or, if it's custom built, the name and address of the engineer referred to in Item #7 below.
b. The make, model and maximum mass of the machine that the roll-over protective structure is designed to fit (ROPS Reg, Sec. 5(1)(b)).

5. Every roll-over protective structure must be securely fastened to the frame of the machine (ROPS Reg, Sec. 5(1)(c)).
6. Every roll-over protective structure must be capable of withstanding all forces to which it's likely to be subjected (ROPS Reg, Sec. 5(1)(d)).
7. Every custom built roll-over protective structure, every repair to such a structure and every custom-built modification to a roll-over protective structure must be certified as meeting the requirements of Item #3 above by an engineer (ROPS Reg, Sec. 5(2)).
8. Every repair to a roll-over protective structure other than a custom-built structure must be approved by the manufacturer

of the structure as meeting the requirements of Item #3 above (ROPS Reg, Sec. 5(3)).
9. Every restraining device must be designed, constructed, installed and maintained:

a. So that the person using the device is secured in position and within the space protected by the roll-over protective structure if the machine to which it's fastened is travelling at a forward speed of 16 kilometres per hour, engages a 30 degree slope and rolls 360 degrees about its longitudinal axis on a hard clay surface.
b. So as to minimize injury to the person using the device, in case of an accident (ROPS Reg, Sec. 6).

PRINCE EDWARD ISLAND

1. The employer must ensure that powered mobile equipment:

a. Is maintained in a safe operating condition and that the operation, inspection, repair, and maintenance of the equipment, and any necessary modifications to the equipment, are carried out in accordance with the manufacturer's instructions or, in the absence of those instructions, as approved by a professional engineer.
b. Is used exclusively for the purposes for which the equipment is designed and equipped.
c. Is operated only by competent persons (OHS Act General Regs, Sec. 33.2).

2. Every operator of powered mobile equipment must:

a. Inspect the powered mobile equipment before the start of operation of each shift to ensure the equipment is in safe operating condition.
b. Ensure that passengers don't ride on any part of the equipment not designed to carry passengers.
c. Not set equipment in motion until all air and hydraulic pressures are fully built up to the specified operating

pressures.
d. When leaving equipment unattended, (i) park it on level ground, (ii) set the brake, (iii) lower the blades and bucket or safely block them, (iv) disengage the master clutch, (v) stop the engine, (vi) remove the key, and (vii) where necessary, adequately chock the wheels to prevent inadvertent movement.
e. Follow a safe refueling procedure,
f. Not store containers of gasoline, diesel oil, or other substances that may constitute a hazard in the cab,
g. Not carry on or in the equipment, loose articles, or equipment that might create a hazard.
h. Ensure the load is adequately secured (OHS Act General Regs, Sec. 33.3).

4. The employer must ensure that agricultural, construction, earthmoving, forestry, and industrial machines are equipped with protective structures that meet CSA Standard B352.0-16 Rollover Protective Structures (ROPS), Falling Object Protective Structures (FOPS), Operator Protective Structures (OPS), and Tip-Over Protective Structures (TOPS) for Mobile Machinery – General Canadian requirements (OHS Act General Regs, Sec. 33.4).
5. The employer must ensure that all modifications or repairs to existing Rollover Protective Structures (ROPS):

a. Meet the requirements of Part 33 of the Regs; and
b. Are certified by the modification design agency, the installing agency or a professional engineer, as the case may be (OHS Act General Regs, Sec. 33.5(1)).

6. The employer must ensure that certification information is made available to an OHS officer, on request (OHS Act General Regs, Sec. 33.5(2)).
7. Protective Structures (ROPS) is equipped with seat belts for the operator and passengers which comply with or exceed the recommended practices of the Society of Automotive Engineers. Restraining devices (OHS Act General Regs, Sec.

33.6(1)).
8. Where the nature or type of work renders the wearing of seat belts impracticable, the employer must ensure that powered mobile equipment is equipped with shoulder belts, bars, gates, screens, or other restraining devices designed to prevent the operator and passengers from being thrown outside the rollover protective structures (OHS Act General Regs, Sec. 33.6(2)).
9. Every operator of and passenger on powered mobile equipment must use the seat belts and restraining devices provided while the equipment is in motion (OHS Act General Regs, Sec. 33.6(3)).
10. Equipment requirements: The employer must ensure that powered mobile equipment:

a. Has an adequate and fully operative braking system.
b. Has a manually operated audible warning device.
c. Has an adequate rear-view mirror or other means of ensuring that the equipment can be safely backed up.
d. Has an audible automatic back-up alarm.
e. Has adequate headlights and backing lights when used after dark or in dimly lit areas.
f. Has gears and moving parts that are adequately guarded.
g. Has controls which can’t be operated from outside the cab unless the controls are designed to be operated from outside the cab.
h. Has air and hydraulic lines, hoses and components maintained in safe operating condition.
i. Has wire ropes, drums and sheaves that are inspected daily.
j. Is lubricated only when the machine is at rest or as the manufacturer has expressly directed.
k. Has safe and easy access to the operator’s station by means of a ladder or steps and a handrail (OHS Act General Regs, Sec. 33.7).

11. The employer must designate a worker to give signals to an

operator who is operating powered mobile equipment when the operator's vision is obstructed and the operator must use the equipment only on mutually agreed signals between the operator and the designated worker (OHS Act General Regs, Sec. 33.8(1)).

12. The designated worker referred to above must ensure that it's safe to proceed with a movement before the worker signals the operator for the movement to proceed (OHS Act General Regs, Sec. 33.8(2)).

13. Where practicable, designated walkways must be used to separate pedestrian traffic from areas of operation of powered mobile equipment (OHS Act General Regs, Sec. 33.9(1)).

14. Where it's impracticable to provide designated walkways for pedestrian traffic, the employer must ensure that safe work procedures are used to minimize the possibility of a collision in hazardous work areas, including:

    a. Use of a traffic control system.
    b. Enforcement of speed limits for powered mobile equipment.
    c. A requirement for the pedestrian and the operator of the powered mobile equipment to acknowledge each other's presence before the pedestrian proceeds through a hazardous work area.
    d. Other effective means (OHS Act General Regs, Sec. 33.9(2)).

15. Where work is carried out in an area where dust may create a hazard to the health of workers, the employer must take adequate measures to minimize the release of dust to protect workers from the risk of damage to their health (OHS Act General Regs, Sec. 33.10).

16. Buckets, forks, booms, hoists, and other load handling attachments may only be installed on powered mobile equipment as specified by the equipment manufacturer or where certified by a professional engineer for use on the equipment (OHS Act General Regs, Sec. 33.11).

17. The employer must ensure that:

    a. Powered mobile equipment which is raised from the ground by means of jacks or hoists is adequately blocked; and
    b. Mats or heavy planking are used to distribute the load on soft ground (OHS Act General Regs, Sec. 33.12).

18. The employer must ensure that any person or worker doesn't work under or go under the raised parts of any powered mobile equipment unless the raised parts of the equipment are adequately blocked (OHS Act General Regs, Sec. 33.13).
19. Where repair or maintenance work is carried out at the point of articulation on front end loaders or similar powered mobile equipment, the employer must ensure that lock bars are used to prevent movement of either end of the loader or similar equipment (OHS Act General Regs, Sec. 33.14).
20. Where powered mobile equipment is used on a slope or bank which may give way, the employer must ensure that adequate precautions are taken to stabilize the slope or bank, as the case may be, and to distribute the load of the equipment (OHS Act General Regs, Sec. 33.15).
21. The operator of powered mobile equipment must keep the equipment in gear when going downhill (OHS Act General Regs, Sec. 33.16).
22. When initially inflating a tire, a worker must ensure that the tire pressure doesn't exceed the manufacturer's rated capacity (OHS Act General Regs, Sec. 33.17(1)).
23. A worker must initially inflate a tire mounted on a split-rim or locking ring wheel only after the wheel assembly has been placed in a tire cage or otherwise restrained to contain flying parts in the event of split-rim or locking ring failure or tire rupture (OHS Act General Regs, Sec. 33.17(2)).
24. The employer must ensure that a clamp-on type connector is used to inflate split-rim and locking ring wheels (OHS Act General Regs, Sec. 33.17(3)).
25. Where a clamp-on type connector is used to inflate a tire: (a) the employer must ensure that the worker uses an in-line

pressure gauge and positive pressure control and inflates the tire from a safe position out of the immediate danger area; and (b) the worker must inflate the tire from the safe position (OHS Act General Regs, Sec. 33.17(4)).
26. The employer must ensure that a truck used for the transportation of workers has seats and is enclosed on all sides (OHS Act General Regs, Sec. 33.18(1)).
27. No person may get on or off trucks, or be permitted to get on or off trucks, which are in motion (OHS Act General Regs, Sec. 33.18(2)).
28. A worker must not remain in or on the cab of powered mobile equipment while the equipment is being loaded by a crane or power shovel (OHS Act General Regs, Sec. 33.19).

QUÉBEC

Lift Trucks & Forklift Trucks

1. A lift truck built on or after 2 August 2001 must meet ASME B56.1-1993 Safety Standard for Low Lift and High Lift Trucks (OHS Regs, Sec. 256).
2. A lift truck built before 2 August 2001 must meet either CSA B335.1-1977 Low Lift and High Lift Trucks or ANSI B56.1-1975 Low Lift and High Lift Trucks (OHS Regs, Sec. 256).
3. A counterbalanced high-lift truck with a centre operating station, that can’t be lifted with the operator in a sitting position must be equipped with a retention device, such as a safety belt, mesh doors, enclosed cabin, bucket seat, or winged seat to prevent the operator from being crushed by the structure of the truck in the event the lift truck tips over, and such devices must be kept in good order and used (OHS Regs, Sec. 256.1.).
4. An operator of a forklift truck must be at least 16 years old (OHS Regs, Sec. 256.2).
5. A forklift truck must be operated only by an operator who has undergone:

a. Training in basic notions concerning forklift trucks.
b. Training in the work environment and how it affects operation of a forklift truck.
c. Training in the operation of a forklift truck.
d. Training in safety rules and measures.
e. Practical training under the supervision of an instructor and dealing with the operation of a forklift truck such as starting, moving and stopping, handling loads and any other maneuver necessary to operate a forklift truck (OHS Regs, Sec. 256.3.(1)).

6. Practical training must begin, if possible, outside of the area used for current operations and be completed in the regular work area (OHS Regs, Sec. 256.3.(2)).
7. Training and practical training must include the directives concerning the work environment, its specific conditions and the type of forklift truck to be operated (OHS Regs, Sec. 256.3.(2)).

Self-Propelled Vehicles

8. Every self-propelled vehicle must be used, made, and repaired in such way that it doesn’t compromise the health, safety and wellbeing of workers:

a. The vehicle motor must be in the off position during fueling, except if a safe work method has been established.
b. The vehicle must not be used if repair or maintenance work is being done on it.
c. The vehicle must be maintained and inspected in accordance with the manufacturer’s instructions or standards offering equivalent safety.
d. When one of its parts is repaired, reconditioned or replaced, this new part must provide a level of safety equivalent to that of the original part (OHS Regs, Sec. 272).

9. The control or operating station of a self-propelled

vehicle must be easily and safely accessible by means of a step, grip handles or a permanent ladder (OHS Regs, Sec. 273).
10. A self-propelled vehicle must be equipped with efficient brakes and a warning device (siren), which must be used in yards and in buildings when there are persons nearby and in areas presenting a risk, such as doors and around bends; Exception: A warning device isn't required for tracked bulldozers and hauling machines (OHS Regs, Sec. 274).
11. A self-propelled vehicle must be designed, built and laid out to ensure that the driver isn't struck or doesn't get caught by a moving vehicle part, and is not otherwise injured by operating the vehicle or on entering or leaving the cab (OHS Regs, Sec. 275).
12. The self-propelled vehicle must be equipped with a roof, protective screen, a cab or a structure to protect the driver if:

a. There's a risk of falling objects; or
b. The driver is at risk of impact with an object being handled (OHS Regs, Sec. 276).

13. The following self-propelled vehicles manufactured on or after 2 August 2001 must be provided with a roll-over protective structure that meets CSA B352-M1980 Roll-over Protective Structures standard for farm, construction, landscaping, forestry, industrial and mining vehicles:

a. Industrial tractors, motor graders, prime movers, tracked hauling machines, crawler tractors, tracked loaders, wheeled tractors, and wheeled loaders, whose mass is greater than 700 kg.
b. Compacting machines and rollers whose mass is greater than 2,700 kg, except machines designed for compacting asphalt.
c. Wheeled agricultural tractors of more than 15 kW (OHS Regs, Sec. 277).

14. The following self-propelled vehicles manufactured before

2 August 2001 must be provided with a roll-over protective structure which meets a standard from the Society of Automotive Engineers (SAE) standardization organization or a standard providing equivalent safety:

a. Power rams, and tracked or wheeled loaders and hauling machines.
b. Graders.
c. Tractor scrapers.
d. Agricultural and industrial tractors of more than 15 kW (OHS Regs, Sec. 278).

15. The design, manufacture or installation of a protective structure is deemed to be in compliance with the standard if it's been certified, signed and sealed by an engineer (OHS Regs, Sec. 278).
16. The above requirements don't apply to graders or loaders used for snow removal if these vehicles only circulate in places where there's no risk of overturning nor to low profile agricultural tractors when used in an orchard (OHS Regs, Sec. 278).
17. A plate must be permanently attached to the roll-over protective structure and indicate in a form that's legible at all times:

a. The name of the manufacturer.
b. The protective structure's serial number.
c. The standard with which it complies.
d. The make and model of equipment for which it was designed (OHS Regs, Sec. 279).

18. Wearing a safety belt is mandatory for the driver of a self-propelled vehicle equipped with a roll-over protective structure as well as for any worker in the vehicle while it's in motion (OHS Regs, Sec. 280).
19. Self-propelled vehicles equipped with a winch for towing materials must have a protective shield between the winch and the driver if there's a risk of injuring the driver should the

cable snap (OHS Regs, Sec. 281).
20. Nobody other than the driver may be on a self-propelled vehicle if it's not equipped with a seat and a belt to accommodate each person (OHS Regs, Sec. 282).
21. A worker must not remain on the load of a self-propelled vehicle in motion (OHS Regs, Sec. 283).
22. When a self-propelled vehicle moves in reverse, a signalman must direct the driver if such a move poses a risk for the safety of a worker or the driver (OHS Regs, Sec. 284).
23. The driver of a self-propelled vehicle requiring a roll-over protective structure must not leave the vehicle unattended when the mobile part of the device used for lifting, towing, or pushing a load is in a raised position (OHS Regs, Sec. 285).

SASKATCHEWAN

1. Employer or contractor must ensure that only trained operators are required or permitted to operate powered mobile equipment (OHS Regs, Sec. 11-2(2)).
2. An employer or contractor must ensure that the training required by Table 11 of the Appendix to OHS Regs is provided by competent people and that a written record of all training delivered to workers under the Regs and Table 11 is kept readily available (OHS Regs, Sec. 11-2(3)).
3. Before a worker starts powered mobile equipment, an employer or contractor must ensure that the worker makes a complete visual inspection of the equipment and surrounding area to ensure that no worker, including the operator, is endangered by the start up of the equipment (OHS Regs, Sec. 11-3(1)).
4. An employer or contractor must ensure that:

    a. All powered mobile equipment is inspected by a competent person for defects and unsafe conditions as often as necessary to ensure it's capable of safe operation.
    b. If a defect or unsafe condition that may create a hazard

to a worker is identified:

i. Steps are taken immediately to protect the health and safety of any worker who may be at risk until the defect is repaired or the unsafe condition is corrected.
ii. As soon as reasonably practicable, the defect is repaired or the unsafe condition is corrected.

c. A written record of the above inspections and maintenance is kept at the place of employment and made readily available to the operator (OHS Regs, Sec. 11-4).

5. An employer, contractor, or supplier must ensure that each unit of powered mobile equipment is equipped with:

a. A device within easy reach of the operator that will permit the operator to stop as quickly as possible any ancillary equipment driven from the powered mobile equipment, including any power take off, crane and auger and any digging, lifting and cutting equipment.
b. A horn or other audible warning device.
c. Seats designed and installed to ensure the safety of all workers required or permitted to be in or on the equipment while the equipment is in motion except if the powered mobile equipment is designed to be operated from a standing position.
d. An effective braking system and an effective parking device (OHS Regs, Sec. 11-5(1)).

6. If a unit of powered mobile equipment is operated during hours of darkness in an area that’s not adequately illuminated, an employer, contractor or supplier must ensure that it’s equipped with suitable headlights and back up lights that clearly illuminate the path of travel (OHS Regs, Sec. 11-5(2)).
7. If a unit of powered mobile equipment has a windshield, an employer, contractor or supplier must ensure that it’s equipped with suitable windshield washers and wipers (OHS

Regs, Sec. 11-5(3)).
8. If a unit of powered mobile equipment is fitted with roll over protective structures, an employer, contractor or supplier must ensure that the equipment is equipped with:

a. Seatbelts for the operator and any other worker required or permitted to be in or on the equipment while it's in motion; or
b. Shoulder belts, bars, gates, screens, or other restraining devices designed to prevent the operator and any other worker from being thrown outside the roll over protective structures if the work process makes wearing a seat belt impracticable (OHS Regs, Sec. 11-5(4)).

9. If there's a danger to the operator of a unit of powered mobile equipment or any other worker required or permitted to be in or on a unit from a falling object or projectile, an employer, contractor or supplier must ensure that the powered mobile equipment is equipped with a suitable and adequate cab, screen or guard (OHS Regs, Sec. 11-5(5)).10. An employer, contractor, owner, or supplier must ensure that each unit of powered mobile equipment is constructed, structurally repaired, inspected, tested, maintained, and operated in accordance with the manufacturer's specifications or an approved standard (OHS Regs, Sec. 11-6).
11. An employer or contractor must ensure that the operator of a unit of powered mobile equipment uses the seat belt or other restraining device required (OHS Regs, Sec. 11-7).
12. An employer or contractor must install a bulkhead or other effective restraining device to protect the operator and any other worker required or permitted to be in or on powered mobile equipment used to transport equipment or materials that may shift under emergency stopping conditions and endanger the operator or other worker (OHS Regs, Sec. 11-8).
13. An employer, contractor or supplier must ensure that a motor vehicle or unit of powered mobile equipment that may be used in such a way that a worker other than the operator may

be placed at risk by an unexpected reverse movement is equipped with a suitable warning device that operates automatically when the vehicle or equipment starts to move in reverse (OHS Regs, Sec. 11-9).

14. An employer, contractor, or supplier must ensure that no unit of powered mobile equipment that is equipped with an engine rated at 15 kilowatts or more and is in any of the following categories is used unless it's fitted with a roll over protective structure that meets the requirements of Item #15 below:

a. Motor grader.
b. Crawler tractor, other than one that operates with side booms.
c. Wheeled or tracked dozer and loader, other than one that operates with side booms.
d. Self propelled wheeled scraper.
e. Self propelled roller.
f. Compactor.
g. Rubber tired tractor.
h. Skidder (OHS Regs, Sec. 11-10(1)).

15. Except as otherwise provided in the OHS regulations, an employer, contractor or supplier must ensure that a required roll over protective structure:

a. Is designed, manufactured and installed to meet the requirements of an approved standard.
b. Has the following information permanently and legibly marked on the structure:

i. The manufacturer's name and address.
ii. The model and serial number.
iii. The make and model or series number of the machines that the structure is designed to fit.
iv. An identification of the standard to which the structure was designed, manufactured, and installed (OHS Regs, Sec. 11-10(2)).

16. If the required roll over protective structure isn’t available, an employer, contractor or supplier must ensure that a unit of powered mobile equipment listed in Item #14 is equipped with a roll over protective structure that is:

a. Designed by a professional engineer.
b. Designed and fabricated so that the structure and supporting attachments will support at least twice the weight of the equipment to which the structure is to be fitted, based on the ultimate strength of the metal and integrated loading of structural members, with the resultant load applied at the point of impact.
c. Installed to have a vertical clearance of 1.2 metres between the decks and the structures at the point of operator entrance or exit (OHS Regs, Sec. 11-10(3)).

17. An employer, contractor or supplier must ensure that all modifications or repairs to existing roll over protective structures are certified as meeting the above requirements by a professional engineer (OHS Regs, Sec. 11-10(5)).
18. Items #14 to #17 above don’t apply to equipment that is used underground in a mine governed by The Mines Regulations (OHS Regs, Sec. 11-10(6)).
19. An employer, contractor, or supplier must ensure that any transparent material used as part of the enclosure for a cab, canopy or roll over protective structure on powered mobile equipment is made of safety glass or another material that gives at least equivalent protection against shattering (OHS Regs, Sec. 11-11(1)).
20. An employer, contractor, or supplier must ensure that any defective glass or other transparent material in a cab, canopy or roll over protective structure that creates or may create a hazard is removed and replaced (OHS Regs, Sec. 11-11(2)).
21. If a unit of powered mobile equipment is equipped with an enclosed cab, an employer, contractor, or supplier must ensure that a fuel tank located in the enclosed cab has a filler spout and vents that extend to the outside of the cab (OHS

Regs, Sec. 11-12).
22. If a worker may be endangered by the swinging movement of a load or a part of a unit of powered mobile equipment, an employer or contractor must not require or permit a worker to remain within range of the swinging load or part (OHS Regs, Sec. 11-13(1)).
23. If a worker may be required or permitted to perform maintenance, repairs, or other work on or under an elevated part of a unit of powered mobile equipment, an employer or contractor must ensure that the elevated part is securely blocked to prevent accidental movement (OHS Regs, Sec. 11-13(2)).
24. An operator of a unit of powered mobile equipment may not move or cause to be moved any load or part of the equipment when a worker may be endangered by that movement (OHS Regs, Sec. 11-13(3)).
25. An employer or contractor must ensure that no worker is transported on a vehicle or a unit of powered mobile equipment unless they're seated and secured by a seatbelt or other restraining device designed to prevent them from being thrown from the vehicle or equipment while the vehicle or equipment is in motion (OHS Regs, Sec. 11-14(1)).
26. An employer or contractor must ensure that no worker is transported on the top of a load that is being moved by a vehicle or a unit of powered mobile equipment (OHS Regs, Sec. 11-14(2)).
27. An employer or contractor must ensure that no worker places equipment or material in a compartment of a vehicle or powered mobile equipment in which the operator or another worker is being transported unless the equipment or material is positioned or secured so as to prevent injury to the operator or other worker (OHS Regs, Sec. 11-14(3)).
28. If an open vehicle or unit of powered mobile equipment is used to transport a worker, an employer or contractor must ensure that the worker is restrained from falling from the vehicle or powered mobile equipment and that no part of the worker's body protrudes beyond the side of the vehicle or

powered mobile equipment (OHS Regs, Sec. 11-14(4)).
29. An employer or contractor must ensure that sufficient protection against inclement weather is provided for workers required to travel in a vehicle or unit of powered mobile equipment (OHS Regs, Sec. 11-14(5)).
30. If a vehicle or unit of powered mobile equipment with an enclosed body is used to transport workers, an employer, contractor or supplier must ensure that the exhaust outlet of the engine is located so that exhaust gases can't enter the enclosed body (OHS Regs, Sec. 11-14(6)).
31. An employer or contractor must ensure that:

a. No worker is on a ladder that is attached as a permanent part of an extending boom on powered mobile equipment during any movement of the equipment, including extension or retraction of the boom (this rule doesn't apply to firefighting equipment).
b. If outriggers are incorporated into powered mobile equipment, no worker climbs a ladder attached to an extending boom unless the outriggers are deployed.
c. No worker operates any powered mobile equipment equipped with an extending boom unless the powered mobile equipment is stable under all operating conditions (OHS Regs, Sec. 11-15(1)).

32. An employer, contractor or supplier must ensure that every forklift:

a. Is provided with a durable and clearly legible load rating chart that's readily available to the operator; and
b. Is equipped with a seat belt for the operator if the forklift is equipped with a seat (OHS Regs, Sec. 11-16(1))

33. An employer or contractor must ensure that the operator of a forklift uses the required seat belt (OHS Regs, Sec. 11-16(2)).

YUKON

1. Mobile equipment must:

    a. Be maintained in safe operating condition in accordance with the manufacturer’s recommendation and applicable regulations.
    b. Be properly identified, if unsafe for use, in a manner that ensures that it’s not used until repaired and made safe for use.
    c. Have maintenance records for any service, repair or modification and the records must be reasonably available to the operator and maintenance personnel during work hours.
    d. Be operated, inspected, repaired, maintained, and modified in accordance with the WSC Regulation, the manufacturer’s instructions, or in the absence of such instructions, in accordance with good engineering practice.
    e. Be inspected regularly and inspections must include, but not be limited to:

        i. Tires for tread wear, rock bruises, and tread and sidewall cracking.
        ii. Steering system.
        iii. Braking system.
        iv. Lights and signal devices.
        v. All glass.

    f. Be serviced, maintained, and repaired when the equipment is not operating, unless continued operation is essential to the process and a safe means is provided.
    g. Only be used off maintained roads if the equipment is appropriate and safe for this use considering factors such as the nature of the travel road and surface, the slope of the travel surface, curves, super-elevation and the activities to be undertaken (WSC Regs, Sec. 6.02).

2. Workers must only operate mobile equipment if:

a. They've received adequate training in the safe use and operation of the equipment.
b. They've demonstrated competency in operating the equipment to a supervisor or a qualified person.
c. Where mobile equipment has air brakes, they hold a valid air brake certificate or a driver's license with an air brake endorsement, or evidence of successful completion of a course of instruction on air brake systems by an organization acceptable to the board.
d. They're familiar with the operating instructions for the mobile equipment.
e. They've been authorized by a supervisor to operate the equipment.
f. Where the workers are trainees, they're under the direct supervision of a supervisor or a qualified person (WSC Regs, Sec. 6.03).

3. Operators of mobile equipment must ensure that they:

a. Operate the equipment safely, maintain full control of the equipment while operating and comply with the WSC Regs governing operation of the equipment.
b. Inspect the mobile equipment in accordance with instruction from the employer and the manufacturer before starting it.
c. Record the inspection in a logbook or other similar recording system, and report any defects to the supervisor or the employer for the required repairs and corrective measures (WSC Regs, Sec. 6.04).

4. Supervisors must ensure that they:

a. Do not knowingly operate or permit a worker to operate mobile equipment which is unsafe or could create an undue hazard to the health or safety of any person, or is in violation of the WSC Regs.
b. Take appropriate action to have any reported defects or unsafe situations corrected before the mobile equipment is

returned to service (WSC Regs, Sec. 6.05).

5. The design, fabrication, use, inspection, and maintenance of mobile equipment must meet the requirements of the following applicable standards:

a. Articulating Boom Cranes: ANSI/ASME B30.22-2000, Articulating Boom Cranes.
b. Four Wheel All-Terrain Vehicles: ANSI/ASME SVIA-1-1990, Four Wheel All-Terrain Vehicles – Equipment, Configuration, and Performance Requirements.
c. Mobile and Locomotive Cranes: CAN/CSA-Z150-98, Safety Code on Mobile Cranes, or ANSI/ASME B30.5, Cranes, Mobile and Locomotive.
d. Powered Industrial Trucks (low lift and high lift): ANSI/ASME B56.1-2000, Low Lift and High Lift Trucks.
e. Rough Terrain Forklifts: ANSI/ASME B56.6-2002, Safety Standard for Rough Terrain Forklift Trucks.
f. Side Boom Tractors: ANSI/ASME B30.14-1991, Side Boom Tractors.
g. Vehicles with Mounted Aerial Devices (except fire-fighting equipment): CAN/CSA-C225-00, Vehicle-Mounted Aerial Devices.
h. Vehicles with Mounted Aerial Devices (fire-fighting equipment): NFPA 1901, Automotive Fire Apparatus, current edition.
i. Safety and Hazard Warning: ISO 9244:1995 Earth-moving machinery-safety signs and hazard pictorials – General Principles.
j. Lift Truck Operator training: CSA B335-04, Safety Standards for Lift Trucks.
k. Other similar standards acceptable to the board (WSC Regs, Sec. 6.06).

6. If a mobile equipment operator can’t see immediately behind the machine, either directly or by the use of mirrors or other device, the machine must have an automatic audible warning device that:

a. Activates whenever the equipment controls are positioned to move the equipment in reverse, and is audible above the ambient noise level, or
b. Where it’s not practicable to provide such a warning device, a signal person must be appointed to guide the operator and warn other workers, as required by section 6.38 of the WSC Regs (WSC Regs, Sec. 6.07).

7. Mobile equipment must be equipped with lights that must be used during the period from a half-hour before sunset to a half-hour before sunrise, or when people, equipment or vehicles aren’t clearly discernible at a distance of 150 m (500 ft.), to adequately illuminate:

a. The direction of travel.
b. The working area around the mobile equipment.
c. The cab instruments (WSC Regs, Sec. 6.08).

8. Mobile equipment must have:

a. One or more mirrors providing the operator with an undistorted reflected view to the rear of the equipment, or
b. Parabolic mirrors in combination with flat mirrors if necessary to improve rear vision (WSC Regs, Sec. 6.09).

9. Windows on mobile equipment must be made of safety glazing meeting the requirements of ANSI Standard Z26.1, Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways, or other similar standard acceptable to the board (WSC Regs, Sec. 6.10(1)).

10. Where the maximum travel speed of mobile equipment is 40 km/h (25 mph) or less, tempered windscreen glazing used on the front of the machine must meet the requirements of ANSI Standard Z26.1, Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways, section 4, item 2, or other similar standard acceptable to the board (WSC Regs, Sec. 6.10(2)).

11. If wipers on the mobile equipment are used on plastic glazing, the glazing surface must be hard coated (WSC Regs, Sec. 6.10(3)).

12. Each original equipment or manufacturer's replacement window must be marked to show the manufacturer's name or recognized identification mark, the standard to which the window conforms, and in the case of polycarbonate windows, the thickness and grade of material (WSC Regs, Sec. 6.10(4)).

13. A custom-made replacement window for mobile equipment must meet the requirements of Items #9 to #11 above (WSC Regs, Sec. 6.10(5)).

14. Windshields, side and rear windows, and rear-vision mirrors must be maintained to provide clear vision for the mobile equipment operator (WSC Regs, Sec. 6.10(6)).

15. Mobile equipment must have braking systems meeting the requirements of the following applicable standards:

a. SAE J1473, Brake Performance – Rubber-Tired Earthmoving Machines.
b. SAE J1026, Braking Performance – Crawler Tractors and Crawler Loaders.
c. SAE J1178, ISO11169 DEC94, Machinery for Forestry – Wheeled Special Machines – Vocabulary, Performance Test Methods, and Criteria for Brake Systems.
d. SAE J1472, January 1998, Braking Performance – Roller Compactors.
e. ANSI/ASME B56.1-2000, Low lift and High Lift Trucks.
f. ANSI/ASME B56.6-2002, Safety Standard for Rough Terrain Forklift Trucks.
g. ISO 11512:1995, Machinery for Forestry – Tracked Special Machines – Performance Criteria for Brake Systems.
h. Other similar standards acceptable to the board (WSC Regs, Sec. 6.11(1)).

16. Mobile equipment used as an off-road transport vehicle on

a slope greater than 20% must have a braking system meeting the performance requirements of SAE Standard J1178, ISO11169 DEC94, Machinery for Forestry – Wheeled Special Machines – Vocabulary, Performance Test Methods, and Criteria for Brake Systems, or other similar standard acceptable to the board (WSC Regs, Sec. 6.11(2)).

17. Mobile equipment must have a parking brake system that doesn't use gas or fluid pressure to maintain its application and it must be located so the operator, in the operator's seat, can activate it (WSC Regs, Sec. 6.11(3)).

18. Where mobile equipment manufactured before the publication of the standards listed in Item #15 remains in service using the brake system originally specified by the manufacturer:

a. It may remain in service unless in the opinion of the board or a professional engineer, modification is necessary to ensure that the braking system is adequate.
b. The automatic and gradual application of spring brakes must remain as an acceptable supplementary means, and warning devices must be installed to warn of low air pressure and allow the operator to bring the vehicle to a controlled stop (WSC Regs, Sec. 6.11(4)).

19. If mobile equipment depends on engine power for stopping and power failure will result in loss of adequate capability to stop, supplementary means must be provided to enable the operator to bring the equipment to a controlled stop (WSC Regs, Sec. 6.11(5)).

20. Where wheeled mobile equipment manufactured after the effective date of the WSC Regs depends on engine power for steering, and power failure results in loss of adequate directional control:

a. An audible and visual warning device must advise the operator of the loss of primary steering.
b. A supplementary system must be provided to enable the

operator to make a controlled stop.
c. The supplementary steering system must activate automatically upon the failure of the primary system (WSC Regs, Sec. 6.12(1)).

21. The above-required supplementary steering system for equipment capable of a travel speed greater than 20 km/h (13 mph) must meet the requirements of SAE Standard J1511 ISO5010 FEB94, Steering for Off-Road, Rubber-Tired Machines, or other similar standard acceptable to the board (WSC Regs, Sec. 6.12(2)).

22. A rubber-tired skidder manufactured after the effective date of the WSC Regs must have a supplementary steering system meeting the requirements of Item #21 (WSC Regs, Sec. 6.12(3)).

23. Mobile equipment must be protected against engine starter engagement when the engine is coupled to the wheels or tracks of the equipment (WSC Regs, Sec. 6.13).

24. Mobile equipment with a single entrance cab door, manufactured after the effective date of the WSC Regulations, must have an alternate means of escape clearly marked inside and outside of the cab that:

a. Is not located on the same surface as the cab entrance door.
b. Is usable regardless of the position of the movable components or accessories of the machine.
c. Does not pose additional hazards to the operator.
d. Can be opened from both inside and outside without the use of tools.
e. Requires a force of 135 N (30 lbs.) to open.
f. Provides a clear opening of at least 0.65 m (26 in.) in diameter if circular, 0.6 m (24 in.) on each side if square, and 0.47 m by 0.65 m (19 in. by 26 in.) if rectangular (WSC Regs, Sec. 6.14(1)).

25. Mobile equipment with a single cab entrance door,

manufactured before the effective date of the WSC Regs, must meet the requirements for an alternate means of escape required at the date of the manufacture, unless the current operating conditions pose a significant hazard to the operator, in which case the board may order the installation of a second means of escape (WSC Regs, Sec. 6.14(2)).

26. Operating controls must be identified to show the function they serve and be located and maintained to allow safe operation of the mobile equipment (WSC Regs, Sec. 6.15(1)).

27. Two lever or joystick pilot operated controls for hydraulic excavators and machines, such as hydraulic log loaders and hoe chucking machines based on a modified hydraulic excavator, must meet the requirements of SAE Standard J1177, October 2002, Hydraulic Excavator Operator Controls, or other standard acceptable to the board (WSC Regs, Sec. 6.15(2)).

28. Buckets, forks, booms, hoists, and other load handling attachments must only be installed on mobile equipment as specified by the equipment manufacturer or when certified by a professional engineer for use on the equipment (WSC Regs, Sec. 6.16).

29. Except for mobile logging equipment, mobile equipment designed and used for lifting, hoisting or similar operations must have:

a. A permanently affixed notation, legible and visible to the operator, stating the rated load of the equipment.
b. A load chart displayed in the operator’s cab if the rated load varies with the reach of the equipment.
c. A rated load and load chart that reflects new load ratings if the equipment has been modified (WSC Regs, Sec. 6.17(1)).

30. Operators of mobile equipment must be protected against falling, flying or intruding objects or material by means of

suitable cabs, screens, grills, shields, deflectors, guards, or structures that meet the requirements of any of the following standards dependent on the type of equipment and nature of the work:

a. SAE J231, March 1999, Minimum Performance Criteria for Falling Object Protection Structure (FOPS).
b. SAE J1043, Performance Criteria for Falling Object Protective Structure (FOPS) for Industrial Machines.
c. ISO 3449:2005, Earth-Moving Machinery – Falling Object Protective Structures – Laboratory Tests and Performance Requirements.
d. SAE J1084, September 2002, Operator Protective Structure Performance Criteria for Certain Forestry Equipment.
e. SAE J1356, August 2002, Minimum Performance Criteria for Falling Object Guards for Excavators.
f. Other similar standards acceptable to the board (WSC Regs, Sec. 6.18(1)-(2)).

31. A worker must not remain in the cab of a mobile equipment vehicle while loads are elevated over the cab unless an adequate overhead guard protects the cab (WSC Regs, Sec. 6.18(3)).

32. The following types of mobile equipment, weighing 700 kg (1,500 lbs.) or more, must have rollover protective structures (ROPS) installed before being put into service:

a. Crawler tractors, loaders and skidders.
b. Wheel tractors, dozers, loaders and skidders.
c. Motor graders.
d. Self-propelled wheel scrapers.
e. Agricultural and industrial tractors.
f. Compactors / rollers.
g. Self-propelled rock drills moved by an on-board operator.
h. Wheeled trenchers manufactured after the effective date of the WSC Regs.

i. Pipe layers or side boom tractors manufactured after the effective date of the Regs (WSC Regs, Sec. 6.19(1)).

33. A ROPS must meet the requirements of one of the following standards:

a. CSA B352.0-95, Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 1: General Requirements.

i. CSA B352.1-95, Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 2: Testing Requirements for ROPS on Agricultural Tractors, or
ii. CSA B352.2-95, Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 3: Testing Requirements for ROPS on Construction, Earthmoving, Forestry, Industrial, and Mining Machines.

b. SAE J1040, Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry, and Mining Machines.
c. ISO 3471:1994, Earthmoving Machinery – Rollover Protective Structures – Laboratory Tests and Performance Requirements.
d. Other similar standards acceptable to the board (WSC Regs, Sec. 6.20).

34. Different standards apply to ROPS on older mobile equipment manufactured on or before December 31, 1972 (WSC Regs, Sec. 6.21).

35. The ROPS manufacturer or a professional engineer must certify a ROPS as meeting the standard specified in Item 33 (WSC Regs, Sec. 6.22(1)).

36. Any addition, repair, modification, welding, or cutting on

a ROPS must be done in accordance with the instructions of, and be re-certified by, the ROPS manufacturer or a professional engineer (WSC Regs, Sec. 6.22(2)).

37. The following information must be permanently marked on a ROPS:

a. The name and address of the manufacturer or the professional engineer who certified the ROPS.
b. The model number or other effective means of identifying the machine for which the ROPS was designed.
c. The serial number or other unique means of identifying the ROPS.
d. The maximum weight of the machine for which the ROPS was designed.
e. The standard to which the ROPS conforms (WSC Regs, Sec. 6.23(1)).

38. A modified ROPS must be permanently marked with the following information:

a. An identification of the modifications effected.
b. The date of re-certification.
c. The name and address of the re-certifying engineer (WSC Regs, Sec. 6.23(2)).

39. A ROPS and other structures must be designed and installed to provide an adequate view for the operator to safely use the mobile equipment (WSC Regs, Sec. 6.24).

40. Mobile equipment with a ROPS and all side boom tractors must have seat belts that meet the requirement of SAE Standard J386, November 1997, Operator Restraint System for Off-Road Work Machines, or other similar standard acceptable to the board (WSC Regs, Sec. 6.25(1)).

41. Seatbelts must be maintained in good condition (WSC Regs, Sec. 6.25(2)).

42. The operator and passengers must use seatbelts whenever mobile equipment is in motion, or engaged in an operation that could cause the equipment to become unstable (WSC Regs, Sec. 6.25(4)).

43. Only the following exceptions to seat belt usage are allowed while operating mobile equipment:

a. A road grader operation that requires the operator to stand, in which case an enclosed cab with closed cab doors or other effective restraining devices must be used, or
b. ROPS-equipped mobile equipment that's operated in a specific location with no significant hazard of rollover, and where the surface in the area of operation is flat and free of ground irregularities that might cause a rollover (WSC Regs, Sec. 6.25(5)).

44. Mobile equipment with moving parts close to the operator's compartment must be effectively guarded so that:

a. The controls inside the compartment can't be operated from outside the compartment, and
b. No part of any person in the operating position inside the compartment can project into the hazard area created by the moving part (WSC Regs, Sec. 6.26).

45. The exposed moving parts of mobile equipment that pose hazards to operators or to other workers must be guarded, and where a part will be kept exposed for a function, it must be guarded as much as is practicable, consistent with the intended function of the component (WSC Regs, Sec. 6.27).

46. A mobile equipment operator must be provided with a safely located and securely mounted seat unless the equipment is designed to be controlled by a standing operator (WSC Regs, Sec. 6.28(1)).

47. The operator's seat must be designed to allow the operator to safely operate the equipment with due regard for the type

and intended use of the equipment, the reach distances to the controls and the duration of use (WSC Regs, Sec. 6.28(2)).

48. Seating for equipment operated on rough terrain must provide adequate lateral restraint (WSC Regs, Sec. 6.28(3)).

49. The operator of mobile equipment is the only worker permitted to ride the equipment unless:

a. The equipment is a worker transportation vehicle meeting the requirements of Part 1 – General of the WSC Regs.
b. Another worker must ride on the equipment to carry out a specific job task.
c. There is an appropriate seat, or other safe facilities provided for each person (WSC Regs, Sec. 6.29(1)).

50. No worker may ride on the outside of the equipment (WSC Regs, Sec. 6.29(2)).

51. The operator must inspect the mobile equipment before the start of operation on the shift and thereafter as required to ensure the safe operating condition of the equipment (WSC Regs, Sec. 6.30(1)).

52. The operator must report defects and conditions affecting the safe operation of the mobile equipment to the supervisor as they are noticed (WSC Regs, Sec. 6.30(2)).

53. Any repair or adjustment necessary for the safe operation of the mobile equipment must be made before the equipment is used (WSC Regs, Sec. 6.30(3)).

54. The operator must maintain the cab, floor and deck of mobile equipment free of materials, tools or other objects that could create a tripping hazard, interfere with the operation of controls, or be a hazard to the operator or other occupants (WSC Regs, Sec. 6.31).

55. The operator of mobile equipment must ensure that the operating controls are not left unattended until:

a. The equipment has been secured against inadvertent movement, by setting the parking brake, placing the transmission in the manufacturer's specified park position, and chocking wheels where necessary, and
b. Any grapples, blades, buckets, or tongs are landed in a safe position (WSC Regs, Sec. 6.32).

56. Any elevated load, part, extension, or machine or mobile equipment may only be left unattended if it's been immobilized and secured against inadvertent movement (WSC Regs, Sec. 6.33(1)).

57. Any elevated part of mobile equipment must be blocked if a worker is required to work beneath it (WSC Regs, Sec. 6.33(2)).

58. Hydraulic or pneumatic jacks must not be used for blocking unless fitted with devices to prevent collapse in the event of loss of hydraulic or pneumatic pressure (WSC Regs, Sec. 6.33(3)).

59. Jacks must not be relied upon for blocking equipment (WSC Regs, Sec. 6.33(4)).

60. A dump truck with a chassis manufactured after January 1, 1999 must have a permanently affixed mechanical device capable of supporting the empty dump box in the raised position (WSC Regs, Sec. 6.34).

61. Mobile equipment must be snubbed by a cable, a suitable vehicle, or another piece of mobile equipment to ensure safety when negotiating a grade or where the condition of the travel surface may result in the mobile equipment having insufficient braking capability to maintain adequate control (WSC Regs, Sec. 6.35(1)).

62. Towing or snubbing cables on mobile equipment must be of adequate strength and secured by safety hooks, moused hooks or shackles (WSC Regs, Sec. 6.35(2)).

63. Mobile equipment must be positioned so that:

a. A swinging portion of the load, cab, counterweight or any other part of the mobile equipment cannot come within 0.6 m (2 ft.) of any obstruction in any area accessible to workers, or
b. Entry to such areas will be prevented by barriers or other effective means (WSC Regs, Sec. 6.36(1)).

64. The operator must not move the mobile equipment when any worker is exposed, as outlined in Item 63 (WSC Regs, Sec. 6.36(2)).

65. No person may board or leave any mobile equipment while it’s in motion, except in an emergency (WSC Regs, Sec. 6.37).

66. Where a mobile equipment operator’s view of the work area is obstructed, the operator must not move the equipment until precautions have been taken to protect the operator and any other worker from injury, including:

a. The inspection, by the operator on foot, of the area into which the equipment will be moved.
b. Direction by a signaler stationed in a safe position in continuous view of the operator and having an unobstructed view of the area into which the equipment will move.
c. Direction by a traffic control or warning system (WSC Regs, Sec. 6.38).

67. Designated walkways must be used to separate pedestrian traffic from areas of operation of mobile equipment (WSC Regs, Sec. 6.39(1)).

68. Where it’s not practicable to provide designated walkways, adequate safe work procedures to minimize the possibility of collision must be used in hazardous work areas, including:

a. The use of a traffic control system.
b. Enforcement of speed limits for mobile equipment.

c. A requirement for the pedestrian and the mobile equipment operator to acknowledge each other’s presence before the pedestrian proceeds through the hazardous area.
d. Other effective means (WSC Regs, Sec. 6.39(2)).

69. In areas where lift truck use is separated from pedestrian traffic, a lift truck must only travel forward with an elevated load if such an operation will improve the operator’s view of the path of travel, provided that operating conditions are maintained to ensure vehicle stability and the specifications of the equipment manufacturer are not compromised (WSC Regs, Sec. 6.39(3)).

70. When material or equipment is transported in mobile equipment, it must be loaded or secured to prevent movement that could create a hazard to workers (WSC Regs, Sec. 6.40(1)).

71. An effective means of load restraint must be installed on any mobile equipment where a rapid deceleration of the vehicle could cause a significant load shift and create a hazard to the operator (WSC Regs, Sec. 6.40(2)).

72. A worker who’s responsible for a load on a vehicle or mobile equipment must ensure that:

a. The load is secured against movement before transporting it, and
b. The load doesn’t extend from the carrier in a manner that could create a hazard (WSC Regs, Sec. 6.41).

73. A unitized load being transported on a lift truck must not project a distance greater than half its height above the fork carriage, backrest or backrest extension of the lift truck (WSC Regs, Sec. 6.42(1)).

74. No part of a load comprised of loose objects may project above the fork carriage, backrest or backrest extension of a lift truck (WSC Regs, Sec. 6.42(2)).

75. A load that could shift during transportation must be restrained if such shifting would result in the load or the lift truck becoming unstable (WSC Regs, Sec. 6.42(3)).

76. Safe work procedures must be established and implemented for servicing vehicle and mobile equipment tires, rims and wheels, including:

a. Inspecting tire, rim, and wheel components.
b. Mounting a tire to the rim and wheel, and inflating a tire.
c. Installing and removing tire assemblies from mobile equipment.
d. Dismounting tires from the rim and wheel assemblies (WSC Regs, Sec. 6.43(1)).

77. Workers assigned to work on tires, rims and wheels must be trained in and follow the above-referenced safe work procedures (WSC Regs, Sec. 6.43(2)).

78. A tire must be deflated before dismounting and deflation must be done in an area where ignition sources are controlled or removed (WSC Regs, Sec. 6.44(1)).

79. Each tire, rim, and wheel part must be cleaned and inspected for damage before mounting, and cracked, broken, bent, or otherwise damaged parts must be replaced (WSC Regs, Sec. 6.44(2)).

80. An internal inspection of a tire must be conducted before mounting it on a wheel or rim (WSC Regs, Sec. 6.44(3)).

81. A tire must be inflated using a remote chuck with a sufficient length of hose and an inline, hand operated valve with a gauge so the worker is outside the likely trajectory should wheel components separate during inflation (WSC Regs, Sec. 6.44(4)).

82. Where a bead expander is used to seat the beads of a tire,

it must be removed before the tire is inflated to more than 34.5 kPa (5 psi) (WSC Regs, Sec. 6.44(5)).

83. A tire must be inflated to the pressure, and within the range, specified by the tire or the equipment manufacturer for the particular application (WSC Regs, Sec. 6.44(6)).

84. A tire mounted on a multi-piece rim wheel must be placed in a cage or other restraining device when it’s being inflated (WSC Regs, Sec. 6.44(7)).

85. Limited welding or heating on assembled rim or wheel parts must only be permitted to facilitate removal of a wheel from a hub after the tire has been completely deflated by removing the valve core (WSC Regs, Sec. 6.44(8)).

86. A tire on a multi-piece rim wheel must be deflated to atmospheric pressure by removing the valve core or by other effective means before dismounting, and in the case of a dual wheel arrangement, both tires must be deflated to atmospheric pressure before loosening any wheel nuts (WSC Regs, Sec. 6.44(9)).

87. Multi-piece rim and wheel components must only be interchanged as permitted by rim/wheel charts from the appropriate rim/wheel manufacturer (WSC Regs, Sec. 6.44(10)).

88. Tires that were mounted on multi-piece rim wheels and used at less than 80% of the recommended inflation pressure for that application must be deflated, disassembled and inspected before reinstallation (WSC Regs, Sec. 6.44(11)).