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PART 6 – MOBILE EQUIPMENT

DEFINITIONS

6.01 In this part, the following definitions apply:

“all-terrain cycle”

means a motorized off-highway vehicle designed to travel on three low-pressure tires, with a seat designed to be straddled by the operator and handlebars for steering;

“ATV or “all-terrain vehicle”

means a motorized off-highway vehicle, designed to travel on four or more low-pressure tires, with or without tracks added, with a seat designed to be straddled by the operator and handlebars for steering;

“FOPS”

means “falling object protective structure”;

“heavy equipment”

means mobile equipment;

“mobile equipment”

means a wheeled or tracked vehicle that is engine or motor powered, together with attached or towed equipment, but not a vehicle operated on fixed rails or tracks;

“mobile logging equipment”

means mobile equipment used in the forest industry;

“no significant hazard of rollover”

means an area in which there are no grades exceeding 10% (6 degrees), no operating areas with open edges, no open ramps, load docks, ditches or other similar hazards which might cause a rollover;

“ROPS”

means “roll over protective structure”;

“S/V” or “snowmobile” or “snow vehicle”

means a motorized vehicle with skis and a powered track;

“specific location”

means a yard, plant or other clearly defined and limited area in which mobile equipment is operated.

NOTE: Mobile equipment that must meet the requirement of the *Motor Vehicle Act* is subject to this Regulation for matters not specifically governed by that *Act* and the regulations made thereunder.

OPERATION AND MAINTENANCE

6.02 Mobile equipment shall

Maintenance

(a) be maintained in safe operating condition in accordance with the manufacturer’s recommendation and applicable regulations,

Not for use

(b) be properly identified, if unsafe for use, in a manner that ensures that it is not used until repaired and made safe for use,

Records

(c) have maintenance records for any service, repair or modification and the records shall be reasonably available to the operator and maintenance personnel during work hours,

- Inspection**
 - (d) be operated, inspected, repaired, maintained and modified in accordance with this Regulation, the manufacturer's instructions, or in the absence of such instructions, in accordance with good engineering practice,
 - (e) be inspected regularly and inspections shall 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, and
 - v. all glass,
- Servicing**
 - (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, and
- Off road**
 - (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.

OPERATOR TRAINING AND RESPONSIBILITIES

- Training**
 - 6.03** Workers shall only operate mobile equipment if
 - (a) they have received adequate training in the safe use and operation of the equipment,
- Competence**
 - (b) they have demonstrated competency in operating the equipment to a supervisor or a qualified person,
- Air brakes**
 - (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 director,
- Instructions**
 - (d) they are familiar with the operating instructions for the mobile equipment,
- Authorization**
 - (e) they have been authorized by a supervisor to operate the equipment, and
- Trainees**
 - (f) where the workers are trainees, they are under the direct supervision of a supervisor or a qualified person.
- Operator's responsibility**
 - 6.04** Operators of mobile equipment shall ensure that they
 - (a) operate the equipment safely, maintain full control of the equipment while operating and comply with these Regulations governing the operation of the equipment,
 - (b) inspect the mobile equipment in accordance with instruction from the employer and the manufacturer before starting it, and
 - (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.

SUPERVISOR'S RESPONSIBILITY

- 6.05** Supervisors shall 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 these Regulations, and
 - (b) take appropriate action to have any reported defects or unsafe situations corrected before the mobile equipment is returned to service.

GENERAL STANDARDS

- Standards for mobile equipment**
- 6.06** The design, fabrication, use, inspection and maintenance of mobile equipment shall 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*, or
 - (k) other similar standards acceptable to the director.

WARNING DEVICES, LIGHTS, MIRRORS AND WINDOWS

- Warning signal device**
- 6.07** If a mobile equipment operator cannot see immediately behind the machine, either directly or by the use of mirrors or other device, the machine shall 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 is not practicable to provide such a warning device, a signal person shall be appointed to guide the operator and warn other workers, as required by section 6.38.
- Worker uses lights**
- 6.08** Mobile equipment shall be equipped with lights that shall be used during the period from a half-hour before sunset to a half-hour before sunrise, or when persons, equipment or vehicles are not clearly discernible at a distance of 150 m (500 ft.), to adequately illuminate
- (a) the direction of travel,
 - (b) the working area about the mobile equipment, and
 - (c) the cab instruments.
- Rear view mirrors**
- 6.09** Mobile equipment shall have
- (a) a mirror or 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.
- Window standards**
- 6.10** (1) Windows on mobile equipment shall 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 director.

- (2) 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 shall meet the requirements of
 - (a) *ANSI Standard Z26.1, Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways*, section 4, item 2, or
 - (b) other similar standard acceptable to the director.
 - (3) If wipers on the mobile equipment are used on plastic glazing, the glazing surface shall be hard coated.
- Replacement windows**
- (4) Each original equipment or manufacturer's replacement window shall 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.
 - (5) A custom-made replacement window for mobile equipment shall meet the requirement of subsections (1) to (3).
- Clear vision**
- (6) Windshields, side and rear windows, and rear-vision mirrors shall be maintained to provide clear vision for the mobile equipment operator.

BRAKING REQUIREMENTS

- Standards**
- 6.11**
- (1) Mobile equipment shall 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*, or
 - (h) other similar standards acceptable to the director.
 - (2) Mobile equipment used as an off-road transport vehicle on a slope greater than 20% shall have a braking system meeting the performance requirements of
 - (a) *SAE Standard J1178, ISO11169 DEC94, Machinery for Forestry – Wheeled Special Machines – Vocabulary, Performance Test Methods, and Criteria for Brake Systems*, or
 - (b) other similar standard acceptable to the director.
- Parking brake requirement**
- (3) Mobile equipment shall have a parking brake system that does not use gas or fluid pressure to maintain its application and it shall be located so the operator, in the operator's seat, can activate it.
- Older equipment**
- (4) Where mobile equipment manufactured before the publication of the standards listed in subsection (1) remains in service using the brake system originally specified by the manufacturer
 - (a) it may remain in service unless in the opinion of the director or a professional engineer, modification is necessary to ensure that the braking system is adequate, and

(b) the automatic and gradual application of spring brakes shall remain as an acceptable supplementary means, and warning devices shall be installed to warn of low air pressure and allow the operator to bring the vehicle to a controlled stop.

Supplementary braking

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

SUPPLEMENTARY STEERING

Supplementary steering

6.12 (1) Where wheeled mobile equipment manufactured after the effective date of these Regulations depends on engine power for steering, and power failure results in loss of adequate directional control

- (a) an audible and visual warning device shall advise the operator of the loss of primary steering,
- (b) a supplementary system shall be provided to enable the operator to make a controlled stop, and
- (c) the supplementary steering system shall activate automatically upon the failure of the primary system.

Standards

(2) The supplementary steering system required by subsection (1) for equipment capable of a travel speed greater than 20 km/h (13 mph) shall meet the requirements of

- (a) *SAE Standard J1511 ISO5010 FEB94, Steering for Off-Road, Rubber-Tired Machines*, or
- (b) other similar standard acceptable to the director.

Skidders

(3) A rubber tired skidder manufactured after the effective date of these Regulations shall have a supplementary steering system meeting the requirements of subsection (2).

CAB CONTROLS, STARTING AND ESCAPE

Starter disconnect

6.13 Mobile equipment shall be protected against engine starter engagement when the engine is coupled to the wheels or tracks of the equipment.

Escape from cab

6.14 (1) Mobile equipment with a single entrance cab door, manufactured after the effective date of these Regulations, shall 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, and
- (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.

Installation on older equipment

(2) Mobile equipment with a single cab entrance door, manufactured prior to the effective date of these Regulations, shall 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 director may order the installation of a second means of escape.

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|---------------------------|-------------|---|
| Operating controls | 6.15 | (1) Operating controls shall be identified to show the function they serve and be located and maintained to allow safe operation of the mobile equipment. |
| Joystick controls | | (2) 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, shall meet the requirements of <i>SAE Standard J1177, October 2002, Hydraulic Excavator Operator Controls</i> , or other standard acceptable to the director. |

LOAD HANDLING ATTACHMENTS

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| Attachments | 6.16 | Buckets, forks, booms, hoists and other load handling attachments shall only be installed on mobile equipment as specified by the equipment manufacturer or when certified by a professional engineer for use on the equipment. |
|--------------------|-------------|---|

LOAD RATINGS

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|----------------------------|-------------|--|
| Load rating visible | 6.17 | Except for mobile logging equipment, mobile equipment designed and used for lifting, hoisting or similar operations shall have |
| Load chart | | (a) a permanently affixed notation, legible and visible to the operator, stating the rated load of the equipment, |
| Modifications | | (b) a load chart displayed in the operator's cab if the rated load varies with the reach of the equipment, and |
| | | (c) a rated load and load chart that reflects new load ratings if the equipment has been modified. |

FOPS, ROPS AND GUARDS

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|----------------------------|-------------|--|
| Where FOPS required | 6.18 | (1) Operators of mobile equipment shall be protected against falling, flying or intruding objects or material by means of suitable cabs, screens, grills, shields, deflectors, guards or structures. |
| Standards | | (2) The means of protection in (1) shall meet the requirements of any of the following standards dependent on the type of equipment and nature of the work |
| | | (a) <i>SAE J231, March 1999, Minimum Performance Criteria for Falling Object Protection Structure (FOPS)</i> , |
| | | (b) <i>SAE J1043, Performance Criteria for Falling Object Protective Structure (FOPS) for Industrial Machines</i> , |
| | | (c) <i>ISO 3449:2005, Earth-Moving Machinery – Falling Object Protective Structures – Laboratory Tests and Performance Requirements</i> , |
| | | (d) <i>SAE J1084, September 2002, Operator Protective Structure Performance Criteria for Certain Forestry Equipment</i> , |
| | | (e) <i>SAE J1356, August 2002, Minimum Performance Criteria for Falling Object Guards for Excavators</i> , or |
| | | (f) other similar standards acceptable to the director. |
| Other guards | | (3) A worker shall 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. |
| Where ROPS required | 6.19 | (1) The following types of mobile equipment, weighing 700 kg (1,500 lbs.) or more, shall have rollover protective structures (ROPS) installed prior to 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 these Regulations, and
		(i) pipe layers or side boom tractors manufactured after the effective date of these Regulations.
	(2)	Notwithstanding (1) above, a ROPS shall be installed on any mobile equipment, upon the order of a safety officer, where the design of the equipment or the circumstances of use present a hazard to a worker.
ROPS standards	6.20	A ROPS shall meet the requirements of one of the following standards: <ul style="list-style-type: none"> (a) <i>CSA B352.0-95, Rollover Protective Structures (ROPS) for Agricultural, Construction, Earthmoving, Forestry, Industrial, and Mining Machines – Part 1: General Requirements, and</i> <ul style="list-style-type: none"> i. <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</i> ii. <i>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,</i> (b) <i>SAE J1040, Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry and Mining Machines,</i> (c) <i>ISO 3471:1994, Earthmoving Machinery – Rollover Protective Structures – Laboratory Tests and Performance Requirements, or</i> (d) other similar standards acceptable to the director.
Alternate criteria	6.21	Mobile equipment referred to in section 6.19(a), manufactured on or before December 31, 1972, shall be equipped with a ROPS which conforms to the following requirements: <ul style="list-style-type: none"> (a) the structure and supporting attachments shall be designed, fabricated and attached to support at least twice the weight of the prime mover, (b) there shall be a vertical clearance of at least 1.3 m (4.3 ft.) between the deck and the ROPS at the point of operator access and egress, (c) the equipment shall be certified as meeting these requirements by a professional engineer, (d) the ROPS must be marked in accordance with section 6.23, and (e) where mobile equipment is already equipped with an overhead canopy or cab, it shall have the canopy or cab strengthened by the addition of proper gusseting and by substantially attaching the structure to the frame of the machine.
Retro-fit		
ROPS certification	6.22	(1) The ROPS manufacturer or a professional engineer shall certify a ROPS as meeting the standard specified in section 6.20.
Re-certification		(2) Any addition, repair, modification, welding or cutting on a ROPS shall be done in accordance with the instructions of, and be re-certified by, the ROPS manufacturer or a professional engineer.
ROPS identification	6.23	(1) The following information shall be permanently marked on a ROPS: <ul style="list-style-type: none"> (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, and
 - (e) the standard to which the ROPS conforms.
- (2) A modified ROPS shall be permanently marked with the following information:
- (a) an identification of the modifications effected,
 - (b) the date of re-certification, and
 - (c) the name and address of the re-certifying engineer.
- Effects of ROPS on visibility** **6.24** A ROPS and other structures shall be designed and installed to provide an adequate view for the operator to safely use the mobile equipment.
- Seat belt standards** **6.25** (1) Mobile equipment with a ROPS and all side boom tractors shall have seat belts that meet the requirement of
- (a) *SAE Standard J386, November 1997, Operator Restraint System for Off-Road Work Machines*, or
 - (b) other similar standard acceptable to the director.
- Condition** (2) Seat belts shall be maintained in good condition.
- Usage** (3) The operator and passengers shall use seat belts whenever mobile equipment is in motion, or engaged in an operation that could cause the equipment to become unstable.
- Seat belt exceptions** (4) 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 shall be used, or
 - (b) ROPS-equipped mobile equipment that is 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.
- Guarding shear hazards** **6.26** Mobile equipment with moving parts close to the operator's compartment shall be effectively guarded so that
- (a) the controls inside the compartment cannot 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.
- Guarding moving parts** **6.27** The exposed moving parts of mobile equipment that pose hazards to operators or to other workers shall be guarded, and where a part will be kept exposed for a function, it shall be guarded as much as is practicable, consistent with the intended function of the component.

SEAT REQUIREMENTS AND RIDER RESTRICTIONS

- Operator seat** **6.28** (1) A mobile equipment operator shall be provided with a safely located and securely mounted seat unless the equipment is designed to be controlled by a standing operator.
- (2) The operator's seat shall 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.

- (3) Seating for equipment operated on rough terrain shall provide adequate lateral restraint.
- Rider restriction** **6.29** (1) 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, or
 - (b) another worker must ride on the equipment to carry out a specific job task, and
 - (c) there is an appropriate seat, or other safe facilities provided for each person.
- (2) No worker shall ride on the outside of the equipment.

START OF SHIFT INSPECTION

- Inspection** **6.30** (1) The operator shall 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.
- Report defects** (2) The operator shall report defects and conditions affecting the safe operation of the mobile equipment to the supervisor as they are noticed.
- Repairs** (3) Any repair or adjustment necessary for the safe operation of the mobile equipment shall be made before the equipment is used.

SECURING TOOLS, LOADS, UNATTENDED MOBILE EQUIPMENT

- Securing tools** **6.31** The operator shall 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.
- Equipment controls** **6.32** The operator of mobile equipment shall ensure that the operating controls are not left unattended until
- Parking equipment** (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
- Attachments landed** (b) any grapples, blades, buckets or tongs are landed in a safe position.
- Securing elevated loads** **6.33** (1) Any elevated load, part, extension or machine or mobile equipment shall only be left unattended if it has been immobilized and secured against inadvertent movement.
- Equipment blocked** (2) Any elevated part of mobile equipment shall be blocked if a worker is required to work beneath it.
- Jacks not adequate blocking** (3) Hydraulic or pneumatic jacks shall not be used for blocking unless fitted with devices to prevent collapse in the event of loss of hydraulic or pneumatic pressure.
- (4) Jacks shall not be relied upon for blocking equipment.
- Securing dump boxes** **6.34** A dump truck with a chassis manufactured after January 1, 1999 shall have a permanently affixed mechanical device capable of supporting the empty dump box in the raised position.

ASSISTANCE ON GRADES

- Braking assistance**
- 6.35** (1) Mobile equipment shall 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.
- (2) Towing or snubbing cables on mobile equipment shall be of adequate strength and secured by safety hooks, moused hooks or shackles.

SWINGING EQUIPMENT

- Swinging mobile equipment**
- 6.36** (1) Mobile equipment shall be positioned so that
- (a) a swinging portion of the load, cab, counterweight or any other part of the mobile equipment can not come within 0.6 m (2 ft.) of any obstruction in any area accessible to workers, or
- (b) entry to such areas shall be prevented by barriers or other effective means.
- (2) The operator shall not move the mobile equipment when any worker is exposed, as outlined in subsection (1).

BOARDING / LEAVING

- Boarding / leaving mobile equipment**
- 6.37** No person shall board or leave any mobile equipment while it is in motion, except in an emergency.

OBSTRUCTED VIEW

- 6.38** Where a mobile equipment operator's view of the work area is obstructed, the operator shall not move the equipment until precautions have been taken to protect the operator and any other worker from injury, including
- Foot patrol** (a) the inspection, by the operator on foot, of the area into which the equipment will be moved,
- Signaller** (b) direction by a signaller 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, or
- Traffic control** (c) direction by a traffic control or warning system.

PEDESTRIAN AND EQUIPMENT TRAFFIC

- Separate traffic**
- 6.39** (1) Designated walkways shall be used to separate pedestrian traffic from areas of operation of mobile equipment.
- (2) Where it is not practicable to provide designated walkways, adequate safe work procedures to minimize the possibility of collision shall 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, or
- (d) other effective means.
- Safe procedures and controls**

- Forklifts**
- (3) In areas where lift truck use is separated from pedestrian traffic, a lift truck shall 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.

SECURING LOADS

- Secured load**
- 6.40** (1) When material or equipment is transported in mobile equipment, it shall be loaded or secured to prevent movement that could create a hazard to workers.
- Restraints**
- (2) An effective means of load restraint shall 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.
- Cylindrical objects**
- (3) Cylindrical objects transported on their side shall be effectively restrained against inadvertent movement during loading and unloading, and
 - (a) where perimeter pins are used as part of the restraint system for cylindrical objects, they must extend above the top of the uppermost layer adjacent to the pin by the diameter of the largest cylindrical object, and have a minimum height of 0.46 m (18 in.), unless there is individual blocking or specialized dunnage being used.
- 6.41** A worker who is responsible for a load on a vehicle or mobile equipment shall ensure that
- Load secured**
- (a) the load is secured against movement before transporting it, and
- Load width**
- (b) the load does not extend from the carrier in a manner that could create a hazard.

LIFT TRUCK LOADS

- Height of load**
- 6.42** (1) A unitized load being transported on a lift truck shall not project a distance greater than half its height above the fork carriage, backrest or backrest extension of the lift truck.
- (2) No part of a load comprised of loose objects shall project above the fork carriage, backrest or backrest extension of a lift truck.
- Load restraint**
- (3) A load that could shift during transportation shall be restrained if such shifting would result in the load or the lift truck becoming unstable.

TIRE SERVICING

- Procedures**
- 6.43** (1) Safe work procedures shall 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, and
 - (d) dismounting tires from the rim and wheel assemblies.
- Training**
- (2) Workers assigned to work on tires, rims and wheels shall be trained in and follow the safe work procedures established under subsection (1).
- Deflation**
- 6.44** (1) A tire shall be deflated before dismounting and deflation shall be done in an area where ignition sources are controlled or removed.

- Inspection**
 - (2) Each tire, rim and wheel part shall be cleaned and inspected for damage before mounting, and cracked, broken, bent or otherwise damaged parts shall be replaced.
 - (3) An internal inspection of a tire shall be conducted prior to mounting it on a wheel or rim.
- Inflation**
 - (4) A tire shall 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.
- Bead expander**
 - (5) Where a bead expander is used to seat the beads of a tire, it shall be removed before the tire is inflated to more than 34.5 kPa (5 psi).
- Pressure**
 - (6) A tire shall be inflated to the pressure, and within the range, specified by the tire or the equipment manufacturer for the particular application.
- Cages**
 - (7) A tire mounted on a multi-piece rim wheel shall be placed in a cage or other restraining device when it is being inflated.
- No heat applied**
 - (8) Limited welding or heating on assembled rim or wheel parts shall only be permitted to facilitate removal of a wheel from a hub after the tire has been completely deflated by removing the valve core.
- Multi-piece wheels**
 - (9) A tire on a multi-piece rim wheel shall 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 shall be deflated to atmospheric pressure before loosening any wheel nuts.
 - (10) Multi-piece rim and wheel components shall only be interchanged as permitted by rim/wheel charts from the appropriate rim/wheel manufacturer.
 - (11) Tires that were mounted on multi-piece rim wheels and used at less than 80% of the recommended inflation pressure for that application shall be deflated, disassembled and inspected before reinstallation.

ALL-TERRAIN VEHICLES AND SNOWMOBILES OR SNOW VEHICLES (ATV, S/V)

NOTE: The following requirements for all-terrain vehicles are in addition to the other requirements for mobile equipment in this Part. Any vehicle used off maintained roads, including an ATV, is required to be appropriate and safe for the intended use.

- Restriction**
 - 6.45 (1) All-terrain three-wheeled cycles shall not be used at any workplace.
- Modifications**
 - (2) Modifications that may affect the structural integrity or stability of an ATV or S/V shall be certified by a professional engineer before use.
- Manual**
 - (3) The operator's manual for an ATV or S/V shall be kept in a secure place readily accessible to the operator.
 - (4) The operator shall use an ATV or S/V in accordance with the instructions in the operator's manual.
- Load limits**
 - (5) Where an ATV or S/V is used to move a load, the load shall conform to the weight and height specifications of the ATV or S/V manufacturer.
 - (6) Where the manufacturer has not set limits for operation of the ATV or S/V on sloping ground, 5% is the maximum allowable slope unless the employer has developed and implemented written safe work procedures appropriate for any steeper slope on which the equipment is to be used.

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|--------------------------------------|-------------|--|
| Operator training | 6.46 | (1) Each ATV or S/V operator shall be properly trained in the safe use, handling and operation of the vehicle. |
| Program | | (2) The training program for an ATV or S/V operator shall cover <ul style="list-style-type: none"> (a) the operator's pre-trip inspection, (b) use of personal protective apparel, (c) operating skills according to the ATV or S/V manufacturer's instructions, (d) basic mechanical requirements, and (e) loading and unloading the vehicle, if this is a job requirement. |
| Documentation | | (3) The training for the operator shall be documented. |
| Personal protective equipment | 6.47 | An ATV or S/V operator and any passenger permitted by the manufacturer to be on the vehicle shall wear <ul style="list-style-type: none"> (a) safety headgear, eye protection, and hearing protection, meeting requirements set out in Part 1 – General, (b) clothing suitable for the environmental conditions, (c) when necessary to protect against the hazards presented at the workplace, suitable gloves and clothing which covers the ankles and legs, and the arms to the wrists, and (d) safety headgear when the ATV or S/V is being towed by any means. |
| Loading and unloading | 6.48 | (1) Loading and unloading of an ATV or S/V onto or off of a carrier vehicle shall be done in a safe manner. |
| Ramps | | (2) Where ramps are used when loading or unloading an ATV or S/V, they shall be placed at a suitable angle, be sufficiently wide, of adequate strength and have a surface finish that provides an adequate grip for the ATV's tires or the S/V's track. |

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