

MOTOR VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS

O

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SUBDIVISION O

MOTOR VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS

Authority: Section 107, Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 333); Secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), or 6-96 (62 FR 111), as applicable. Section 1926.602 also issued under 29 CFR part 1911.

§1926.600 Equipment.

(a) General requirements.

(1) All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.

(2) A safety tire rack, cage, or equivalent protection shall be provided and used when inflating, mounting, or dismounting tires installed on split rims, or rims equipped with locking rings or similar devices.

(3)

(i) Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.

(ii) Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

(4) The use, care and charging of all batteries shall conform to the requirements of Subpart K of this part.

(5) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this subpart.

(6) All equipment covered by this subpart shall comply with the requirements of §1926.550(a)(15) when working or being moved in the vicinity of power lines or energized transmitters.

(7) **Rolling railroad cars.** Derail and/or bumper blocks shall be provided on spur railroad tracks where a rolling car could contact other cars being worked, enter a building, work or traffic areas.

(b) Specific requirements. (Reserved)

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: APD Admin. Order 4-1989, f. 3/31/89, ef. 5/1/89 (temp).

APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89 (perm).

OR-OSHA Admin. Order 6-1999, f. 5/26/99, ef. 5/26/99.

437-003-0085 General Requirement. *An unimpaired horizontal clearance of not less than 3 feet shall be maintained between the rotating superstructure of any mechanical equipment and any adjacent object or surface. If this clearance cannot be maintained, barricades shall be installed to isolate the hazardous area.*

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89.

437-003-0090 Pinchpoints. *To protect against workers being exposed to the hazardous pinchpoint area between the rotating superstructure and the non-rotating undercarriage of any mechanical equipment:*

(1) *Signs shall be conspicuously posted on all sides of any mechanical equipment warning workers:*

DANGER – STAY CLEAR;

(2) *Items of personal property, tools, or other miscellaneous materials shall not be stored on or near any mechanical equipment if retrieval of such items would expose a worker to the hazardous pinchpoint;*

(3) *Workers shall approach the hazardous pinchpoint area only after informing the operator of his intent and receiving acknowledgment from the operator that the operator understands his intention. All mechanical equipment shall be stopped while any worker is in the hazardous pinchpoint area; and*

(4) *When the nature of the work requires a person to work within 3 feet of the swing radius of the rotating upper structure, a warning barricade shall be provided. This requirement shall not apply to mechanical equipment when:*

(a) The distance from the highest point of the undercarriage to the lowest point of the rotating superstructure is greater than 18 inches. this applies only to that portion of the rotating superstructure that swings directly over the undercarriage;

(b) The distance from the ground to the lowest point of the rotating superstructure is greater than 5 foot 6 inches. This applies only to that portion of the rotating superstructure that swings directly over the undercarriage; or

(c) On crawler-type track-mounted mechanical equipment only, the rotating superstructure is positioned at a right angle to the tracks, and the distance from the side of the cab to the extreme end of the track is 4 feet or less. This exemption shall apply to side barricades only; barricades between the tracks at both ends of any crawler-type mechanical equipment are required regardless of the right angle dimension.

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89.

VEHICLE DRIVERS AND RIDERS



437-003-3224 Vehicle Drivers and Riders.

(1) Scope. *This rule applies, without regard to vehicle ownership when your employees drive or ride as part of their employment.*

NOTE: The Oregon Bureau of Labor and Industries (BOLI) administers rules about using minors as drivers. Please contact the nearest BOLI office for more information.

(2) Driver Qualifications. *You must not allow an employee to drive a vehicle on a public highway or road unless they have a valid driver's license appropriate for that type vehicle.*

(3) General Safety.

(a) Do not allow employees to drive or ride in any vehicle known to be unsafe.

(b) Require employees to report any safety problems effecting vehicles you own or provide.

(4) Rider Safety - General.

(a) Except as in (5), (6) and (7), do not allow employees to occupy a vehicle in excess of its seating capacity.

(b) Require employees to comply with all applicable seatbelt and traffic safety laws.

(5) Rider Safety in the Bed of Dump Trucks, Pickups and Similar Vehicles. *Do not transport workers in the beds of dump trucks, pickups or similar vehicles unless these conditions are met when applicable:*

(a) When seating is available, it must be secure to the floor and passengers may not stand.

(b) The bed is secure to the frame. Beds that tilt or slide must be secure from movement.

(c) Dump beds must be secure or the activating lever locked.

(d) The total height of the sides of the transport area must be at least 42 inches. If riders sit on the floor, the height must be at least 24 inches.

(e) There must be a tailgate the same height as the sides or three evenly spaced chains, cables or ropes taut across the back.

(f) Not more than 4 workers may ride on a flatbed without sides or a tailgate and then only when the speed will not be more than 30 mph. There must be two handholds for each rider.

(g) Workers must not ride in space with cargo unless it is secure from movement.

(6) Standing Rider Safety – Buses. Riders must not sit on the floor while the vehicle is moving. Riders may stand if these conditions are met:

- (a) There must be an aisle at least 12 inches wide leading to the emergency exit.*
- (b) There are no seats in or boards across the aisle.*
- (c) There must be handholds for standing riders.*
- (d) Not more than one rider per row of seats may stand.*
- (e) Riders may not sit or stand near the driver and not ahead of the forward-most row of seats.*
- (f) Workers in transit must not stand for more than one hour or 45 miles, whichever is less. At the end of that period, the standing workers must get a seat or the vehicle must stop for a 15-minute rest allowing the workers to get out.*

(7) Fueling.

- (a) There must be no smoking or other source of ignition within 25 feet of any refueling operation.*
- (b) Do not fill any container that is not bonded or grounded while it is inside the vehicle in the pickup bed or anyplace other than on the ground.*
- (c) Stop the engine (except diesels) during fueling.*
- (d) Refueling vehicles with LPG must be outdoors.*

(8) Hauling gasoline or flammable liquid.

- (a) For buses, vehicles that carry 16 or more, crew trucks, vans and passenger cars, use only DOT or UL approved containers that hold 5 gallons or less and secure them in an area separate from passengers.*
- (b) For pickups, flatbeds and other vehicles not in (a), there is no container size limit as long it is not in an enclosed passenger area.*

(9) Hauling Explosives. When hauling explosives, only the driver and one qualified person may be in the vehicle. Comply with OAR 437-002-1910.109 and 437-002-0109.

(10) Loading or Unloading. When loading or unloading vehicles in a manner that is likely to cause the vehicle to move, set the brakes and chock the wheels.

(11) High Voltage Clearances. When operating a vehicle near overhead lines carrying more than 600v, OAR 437-002-0047 applies for general industry employers and OAR 437-003-0047 applies for Construction employers.

VEHICLES FOR HIGHWAY AND ROAD OPERATION CHARACTERISTICS AND MAINTENANCE



(12) Traffic Control. *You must require employees to set up appropriate traffic controls when they stop on or adjacent to a highway, street, or road in a way that creates a hazard and when traffic cannot adjust safely on its own. The controls must conform to the Millennium Edition of the (FHWA) Manual of Uniform Traffic Control Devices (MUTCD), December 2000.*

NOTE: Get a copy of the Millennium Edition from the following organizations: American Traffic Safety Services Association, 15 Riverside Parkway, Suite 100, Fredericksburg, VA 22406-1022; Telephone: 1-800-231-3475; Fax: (540) 368-1722; www.atssa.com; Institute of Transportation Engineers, 1099 14th Street, NW., Suite 300 West, Washington, DC 20005-3438; Fax: (202) 289-7722; www.ite.org; and American Association of State Highway and Transportation Officials; www.aashto.org; Telephone: 1-800-525-5562. OR: Download the MUTCD 2000 at <http://mutcd.fhwa.dot.gov/kno-millennium>. OR: The MUTCD 2000 is available for review at the Oregon OSHA Resource Center, 350 Winter Street NE, Basement - Room 26, Salem, Oregon 97301-3882; Telephone: (503) 378-3272, or toll free in Oregon 1-800-922-2689.

NOTE: Employers who follow the most current edition of the Oregon Temporary Traffic Control Handbook for Operations of 3 Days or Less comply with this requirement.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 6-2007, f. 9/26/07, ef. 9/26/07.

437-003-3225 Vehicles for Highway and Road Operation Characteristics and Maintenance.

(1) Scope. *This applies to employer-owned vehicles licensed for highway and road use, driven and/or maintained by employees on public or private property, except the following:*

- (a) Powered Industrial Trucks covered by OR-OSHA standard 1910.178 and OAR 437-002-0227.*
- (b) Earth moving equipment (scrapers, loaders, bulldozers and graders) covered by OAR 437-003-1926.602.*
- (c) Manufactured structures, ATVs, golf carts and other similar devices not intended for highway or road use.*

NOTE: When operating a vehicle near overhead power lines more than 600 volts, OAR 437-002-0047 applies for General Industry employers and OAR 437-003-0047 applies for Construction employers.

(2) Vehicle Components.

- (a) The engine start/stop control must be within reach of the driver.*
- (b) There must be steps, ladders and railings to allow safe access to and exit from areas on vehicles where employees must access. Steps and rungs must be slip resistant.*



VEHICLES FOR HIGHWAY AND ROAD OPERATION CHARACTERISTICS AND MAINTENANCE

(c) Vehicles whose cargo is loaded by cranes, power shovels or other powered loaders must have a cab or cab shield that protects the occupants from the impact of falling material.

(d) Secure all material, equipment or tools to prevent movement or a barrier must be in place to protect the occupants from moving items.

(e) Vehicles with cabs must have a door or doors for entry and exit.

(f) Vehicle cargo must not prevent occupants from exiting under any condition.

(g) Vehicles must comply with ORS 811.225, Failure to Maintain Safety Belts in Working Order.

(3) Flashing Warning Lights. Buses with a capacity of 16 or more passengers must have a working flashing light system that complies with ORS 816.260 if they load or unload passengers on a public highway or road.

(4) Buses and Crew Trucks.

(a) Buses and crew trucks must have a secure seat with back rest for each occupant.

(b) Buses with an enclosed seating area for 12 or more workers, unless loaded from the rear, must have an emergency exit not less than 24 inches wide by not less than 48 inches high on the left side or rear of the vehicle. It must open easily from inside or outside the vehicle.

(5) Passenger Compartments.

(a) Floors and decks must be slip resistant.

(b) Seal openings between the engine compartment and muffler area to prevent carbon monoxide from entering the enclosed passenger compartment.

(c) Enclosed passenger compartment must be substantially dust proof and watertight.

(d) Areas where workers sit or stand must be free of protruding nails, screws, splinters or similar physical hazards.

(e) Protect riders from inclement weather by enclosing riding areas as necessary.

(6) Steering. Do not allow spinner knobs on vehicles without power steering. Spinner knobs must be on the inside of the steering wheel.

(7) Lighting. Where general lighting in vehicle operating areas is less than 2 footcandles per square foot, vehicles must have working lights that sufficiently light the travel path.

(8) Testing, Maintenance, and Repair.

(a) Block or crib heavy machinery, equipment or parts supported by slings, hoists, jacks or otherwise prevent it from falling before employees work underneath or between such objects.

VEHICLES FOR HIGHWAY AND ROAD OPERATION CHARACTERISTICS AND MAINTENANCE



(b) During repair or maintenance set all controls in neutral, stop the motor and set the brakes unless the work requires otherwise.

(c) During maintenance or inspection on vehicles with dump bins, use an attached, lockable support that prevents unintentional lowering of the bin.

(d) Disconnect the vehicle battery when the work allows and the energized system could cause injury.

(9) Warning Devices.

(a) All vehicles must have a working horn that can be heard above surrounding area noise.

Paragraph (b) does not apply when the vehicle backs up with an observer or when the operator verifies that there is nobody behind the vehicle or when nobody may enter the danger area without the operator's knowledge.

(b) Vehicles with an obstructed view to the rear must have a backup alarm that can be heard over the surrounding noise. If surrounding noise prevents this or if there are so many vehicles using backup alarms that they cannot be distinguished from each other, flashing or strobe lights are acceptable.

(10) Control of Exhaust Gases.

(a) Vehicles must have a working muffler.

(b) Exhaust pipes must direct the gasses away from occupants.

(c) Insulate or otherwise protect exhaust pipes exposed to worker contact.

(11) First Aid Kits. *Vehicles for transport of 16 or more workers must have a clean, stocked first aid kit with enough supplies for the number of workers usually transported.*

NOTE: Laws and/or administrative rules administered by other government agencies require fire extinguishers in vehicles under specifically defined circumstances.

(12) Controls.

(a) Levers that control dump or hoist devices must have a latch or other device that prevents accidental starting or tripping of the mechanism.

(b) The operator of a dump truck must be able to operate the tailgate trip handle from a position clear of the dumping load.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 6-2007, f. 9/26/07, ef. 9/26/07.



**VEHICLES FOR USE ON PROPERTY
OTHER THAN PUBLIC ROADS AND
HIGHWAYS OPERATION, CHARACTERISTICS
AND MAINTENANCE**

437-003-3226 Vehicles for Use on Property Other Than Public Roads and Highways Operation, Characteristics and Maintenance.

(1) Scope. *This rule applies to employer-owned vehicles, not licensed or normally operated on public highways or roads, except the following:*

(a) Powered Industrial Trucks covered in OR-OSHA standard 1910.178 and OAR 437-002-0227.

(b) Earth moving equipment, (scrapers, loaders, bulldozers and graders) covered by OAR 437-003-1926.602.

(c) Manufactured structures, ATVs, golf carts and other similar devices not intended for highway or road use.

(2) Safe Operation. *You must require the driver to:*

(a) Look in the direction of travel and have a clear view unless being guided by somebody with a clear view of the route.

(b) Slow or stop as appropriate at intersections and not drive in marked pedestrian lanes.

(c) Not drive a vehicle up to a person standing in front of a stationary object.

(d) Manually control all towed or pushed vehicles unless they use a towbar.

(3) Vehicle Loads. *You must protect employees from hazardous vehicle loads by requiring that they:*

(a) Not load a vehicle beyond its rated capacity.

(b) Stabilize, lash down or otherwise secure the load.

(c) Never be under an elevated load.

(4) Basic Equipment Requirements. *You must assure your vehicles comply with the following:*

(a) Vehicles with windshields must have working powered wipers and an effective defroster.

(b) There must be no broken glass that impairs the driver's vision.

(c) When the load or passengers obstruct the use of the interior rear view mirror, there must be an outside rear view mirror on each side of the vehicle.

(d) Vehicle brakes must be effective when the vehicle is fully loaded. The parking brake must hold the loaded vehicle on any slope which it may operate.

**VEHICLES FOR USE ON PROPERTY
OTHER THAN PUBLIC ROADS AND
HIGHWAYS OPERATION, CHARACTERISTICS
AND MAINTENANCE**



NOTE: The rules on safety chains do not apply to saddle-mount towing, or to a semitrailer coupled to a towing vehicle with a fifth wheel and kingpin assembly so designed that the upper and lower halves may not separate without being manually released onto a dolly without a tow bar.

(5) Uncoupled towing. *You must assure that:*

(a) Towed vehicles with a gross weight of 5,000 pounds or less must have at least one safety chain or cable. Towed vehicles with a gross weight more than 5,000 pounds must have at least two safety chains or cables.

(b) Safety chains or cables must be strong enough to control the towed vehicle in event the tow bar or coupling device fails.

(c) Safety chains or cables must connect to the towed and towing vehicles and to the tow bar so as to prevent the tow bar from dropping to the ground if it or the coupling device fails.

(d) There must be only enough slack in safety chains or cables to permit proper turning.

(6) Coupled towing. *You must assure that:*

(a) Drawbar, coupling device, and other connections for towing of trailers must be strong enough to hold the weight of the towed vehicle on any grade over which it may operate.

(b) Any coupling device on any towing vehicle used as a connection for the tow bar on any towed vehicle with a gross weight more than 5,000 pounds must be firmly attached to the frame or to a solid connection to the frame.

(c) There must be a suitable locking means to prevent accidental separation of the towed and towing vehicles.

(d) Connections must have only enough slack to allow for universal action of the connections.

NOTE: When operating a vehicle near overhead power lines more than 600 volts, OAR 437-002-0047 applies for General Industry employers and OAR 437-003-0047 applies for Construction employers.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 6-2007, f. 9/26/07, ef. 9/26/07.

MATERIAL HANDLING EQUIPMENT

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§1926.602 Material Handling Equipment.

(a) Earthmoving equipment; General.

(1) These rules apply to the following types of earthmoving equipment: scrapers, loaders, crawler or wheel tractors, bulldozers, off-highway trucks, graders, agricultural and industrial tractors, and similar equipment. The promulgation of specific rules for compactors and rubber-tired "skid-steer" equipment is reserved pending consideration of standards currently being developed.

(2) Seat belts.

(i) Seat belts shall be provided on all equipment covered by this section and shall meet the requirements of the Society of Automotive Engineers, J386-1969, Seat Belts for Construction Equipment. Seat belts for agricultural and light industrial tractors shall meet the seat belt requirements of Society of Automotive Engineers J333a-1970, Operator Protection for Agricultural and Light Industrial Tractors.

(ii) Seat belts need not be provided for equipment which is designed only for standup operation.

(iii) Seat belts need not be provided for equipment which does not have roll-over protective structure (ROPS) or adequate canopy protection.

(3) Access roadways and grades.

(i) No employer shall move or cause to be moved construction equipment or vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved.

(ii) Every emergency access ramp and berm used by an employer shall be constructed to restrain and control runaway vehicles.

(4) **Brakes.** All earthmoving equipment mentioned in this §1926.602(a) shall have a service braking system capable of stopping and holding the equipment fully loaded, as specified in Society of Automotive Engineers SAE-J237, Loader Dozer-1971, J236, Graders-1971, and J319b, Scrapers-1971. Brake systems for self-propelled rubber-tired off-highway equipment manufactured after January 1, 1972 shall meet the applicable minimum performance criteria set forth in the following Society of Automotive Engineers Recommended Practices:

Self-Propelled Scrapers	SAE J319b-1971
Self-Propelled Graders.....	SAE J236-1971
Trucks and Wagons	SAE J166-1971
Front End Loaders and Dozers	SAE J237-1971

(5) Fenders. Pneumatic-tired earth-moving haulage equipment (trucks, scrapers, tractors, and trailing units) whose maximum speed exceeds 15 miles per hour, shall be equipped with fenders on all wheels to meet the requirements of Society of Automotive Engineers SAE J321a-1970, Fenders for Pneumatic-Tired Earthmoving Haulage Equipment. An employer may, of course, at any time seek to show under §1926.2, that the uncovered wheels present no hazard to personnel from flying materials.

(6) Rollover protective structures (ROPS). See Subpart W of this part for requirements for rollover protective structures and overhead protection.

(7) Rollover protective structures for off-highway trucks. The promulgation of standards for rollover protective structures for off-highway trucks is reserved pending further study and development.

(8) Specific effective dates – brakes and fenders.

(i) Equipment mentioned in paragraph (a)(4) and (5) of this section, and manufactured after January 1, 1972, which is used by any employer after that date, shall comply with the applicable rules prescribed therein concerning brakes and fenders. Equipment mentioned in paragraphs (a)(4) and (5) of this section, and manufactured before January 1, 1972, which is used by any employer after that date, shall meet the applicable rules prescribed herein not later than June 30, 1973. It should be noted that, as permitted under §1926.2, employers may request variations from the applicable brakes and fender standards required by this subpart. Employers wishing to seek variations from the applicable brakes and fenders rules may submit any requests for variations after the publication of this document in the Federal Register. Any statements intending to meet the requirements of §1926.2(b)(4), should specify how the variation would protect the safety of the employees by providing for any compensating restrictions on the operation of equipment.

(ii) Notwithstanding the provisions of paragraphs (a)(5) and (a)(8)(i) of this section, the requirement that fenders be installed on pneumatic-tired earth-moving haulage equipment, is suspended pending reconsideration of the requirement.

(9) Audible alarms.

(i) All bidirectional machines, such as rollers, compacters, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn, distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. The horn shall be maintained in an operative condition.

(ii) No employer shall permit earthmoving or compacting equipment which has an obstructed view to the rear to be used in reverse gear unless the equipment has in operation a reverse signal alarm distinguishable from the surrounding noise level or an employee signals that it is safe to do so.

MATERIAL HANDLING EQUIPMENT

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(10) Scissor points. Scissor points on all front-end loaders, which constitute a hazard to the operator during normal operation, shall be guarded.

(b) Excavating and other equipment.

(1) Tractors covered in paragraph (a) of this section shall have seat belts as required for the operators when seated in the normal seating arrangement for tractor operation, even though back-hoes, breakers, or other similar attachments are used on these machines for excavating or other work.

(2) For the purposes of this subpart and of Subpart N of this part, the nomenclatures and descriptions for measurement of dimensions of machinery and attachments shall be as described in Society of Automotive Engineers 1970 Handbook, pages 1088 through 1103.

(3) The safety requirements, ratios, or limitations applicable to machines or attachment usage covered in Power Crane and Shovel Associations Standards No. 1 and No. 2 of 1968, and No. 3 of 1969, shall be complied with, and shall apply to cranes, machines, and attachments under this part.

(c) Lifting and hauling (other than equipment covered under Subpart N of this part).

(1) Industrial trucks shall meet the requirements of §1926.600 and the following:

(i) Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When auxiliary removable counterweights are provided by the manufacturer, corresponding alternate rated capacities also shall be clearly shown on the vehicle. These ratings shall not be exceeded.

(ii) No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

(iii) If a load is lifted by two or more trucks working in unison, the proportion of the total load carried by any one truck shall not exceed its capacity.

(iv) Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin. The steering knob shall be mounted within the periphery of the wheel.

(v) All high lift rider industrial trucks shall be equipped with overhead guards which meet the configuration and structural requirements as defined in paragraph 421 of American National Standards Institute B56.1-1969, Safety Standards for Powered Industrial Trucks.

(vi) All industrial trucks in use shall meet the applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation, as defined in American National Standards Institute B56.1-1969, Safety Standards for Powered Industrial Trucks.

(vii) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

(viii) **Reserved.**

437-003-0094 Personnel Platforms. *Whenever a lift truck is used for lifting personnel without controls at the platform, the following precautions shall be taken for the protection of personnel being elevated:*

(1) *A work platform equipped with standard guardrails or equivalent means, and firmly secured to the lifting carriage or forks, shall be used.*

(2) *The hydraulic system shall be so designed that the lift mechanism will not drop faster than 135 feet per minute in the event of a failure in any part of the system.*

(3) *An operator shall attend the lift equipment while workers are on the platform.*

(4) *The operator shall be in the normal operating position while raising or lowering the platform.*

(5) *The vehicle shall not travel from point to point with the work platform elevated at a height greater than 4 feet while workers are on the platform. When necessary at heights greater than 4 feet, inching may be permitted provided it is done at a very slow speed.*

(6) *If workers on the platform can contact the lift chains or other dangerous pinch or shear points on the mast or carriage, the platform must have a screen or guard that prevents contact.*

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 6-1999, f. 5/26/99, ef. 5/26/99.

POWERED INDUSTRIAL TRUCKS

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(b) Powered industrial truck operator training.

NOTE: The requirements applicable to construction work under this paragraph are identical to those set forth at 1910.178(l) of this chapter.

For your convenience, §1910.178(l) is printed here.

§1910.178 POWERED INDUSTRIAL TRUCKS.

(l) Operator training.

(1) Safe operation.

(i) The employer shall ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified in this paragraph (l).

(ii) Prior to permitting an employee to operate a powered industrial truck (except for training purposes), the employer shall ensure that each operator has successfully completed the training required by this paragraph (l), except as permitted by paragraph (l)(5).

(2) Training program implementation.

(i) Trainees may operate a powered industrial truck only:

(A) Under the direct supervision of persons who have the knowledge, training, and experience to train operators and evaluate their competence; and

(B) Where such operation does not endanger the trainee or other employees.

(ii) Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

(iii) All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

(3) Training program content. Powered industrial truck operators shall receive initial training in the following topics, except in topics which the employer can demonstrate are not applicable to safe operation of the truck in the employer's workplace.

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POWERED INDUSTRIAL TRUCKS

(i) Truck-related topics:

- (A) Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
- (B) Differences between the truck and the automobile;
- (C) Truck controls and instrumentation: where they are located, what they do, and how they work;
- (D) Engine or motor operation;
- (E) Steering and maneuvering;
- (F) Visibility (including restrictions due to loading);
- (G) Fork and attachment adaptation, operation, and use limitations;
- (H) Vehicle capacity;
- (I) Vehicle stability;
- (J) Any vehicle inspection and maintenance that the operator will be required to perform;
- (K) Refueling and/or charging and recharging of batteries;
- (L) Operating limitations;
- (M) Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

(ii) Workplace-related topics:

- (A) Surface conditions where the vehicle will be operated;
- (B) Composition of loads to be carried and load stability;
- (C) Load manipulation, stacking, and unstacking;
- (D) Pedestrian traffic in areas where the vehicle will be operated;
- (E) Narrow aisles and other restricted places where the vehicle will be operated;
- (F) Hazardous (classified) locations where the vehicle will be operated;
- (G) Ramps and other sloped surfaces that could affect the vehicle's stability;

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(H) Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust;

(I) Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

(iii) The requirements of this section.

(4) Refresher training and evaluation.

(i) Refresher training, including an evaluation of the effectiveness of that training, shall be conducted as required by paragraph (I)(4)(ii) to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

(ii) Refresher training in relevant topics shall be provided to the operator when:

(A) The operator has been observed to operate the vehicle in an unsafe manner;

(B) The operator has been involved in an accident or near-miss incident;

(C) The operator has received an evaluation that reveals that the operator is not operating the truck safely;

(D) The operator is assigned to drive a different type of truck; or

(E) A condition in the workplace changes in a manner that could affect safe operation of the truck.

(iii) An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years.

(5) Avoidance of duplicative training. If an operator has previously received training in a topic specified in paragraph (I)(3) of this section, and such training is appropriate to the truck and working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the truck safely.

(6) Certification. The employer shall certify that each operator has been trained and evaluated as required by this paragraph (I). The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

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(7) Dates. The employer shall ensure that operators of powered industrial trucks are trained, as appropriate, by the dates shown in the following table.

If the employee was hired:	The initial training and evaluation of that employee must be completed:
Before December 1, 1999	By December 1, 1999.
After December 1, 1999	Before the employee is assigned to operate a powered industrial truck.

(8) Appendix A to this section provides non-mandatory guidance to assist employers in implementing this paragraph (I). This appendix does not add to, alter, or reduce the requirements of this section.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: APD Admin. Order 4-1989, f. 3/31/89, ef. 5/1/89 (temp).

APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89 (perm).

OR-OSHA Admin. Order 6-1999, f. 5/26/99, ef. 5/26/99.

OR-OSHA Admin. Order 7-2003, f. 12/5/03, ef. 12/5/03.

§1926.603 Pile Driving Equipment.

(a) General requirements.

- (1)** Boilers and piping systems which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Power Boilers (section I).
- (2)** All pressure vessels which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Pressure Vessels (section VIII).
- (3)** Overhead protection, which will not obscure the vision of the operator and which meets the requirements of Subpart N of this part, shall be provided. Protection shall be the equivalent of 2-inch planking or other solid material of equivalent strength.
- (4)** Stop blocks shall be provided for the leads to prevent the hammer from being raised against the head block.
- (5)** A blocking device, capable of safely supporting the weight of the hammer, shall be provided for placement in the leads under the hammer at all times while employees are working under the hammer.
- (6)** Guards shall be provided across the top of the head block to prevent the cable from jumping out of the sheaves.
- (7)** When the leads must be inclined in the driving of batter piles, provisions shall be made to stabilize the leads.
- (8)** Fixed leads shall be provided with ladder, and adequate rings, or similar attachment points, so that the loft worker may engage his safety belt lanyard to the leads. If the leads are provided with loft platforms(s), such platform(s) shall be protected by standard guardrails.
- (9)** Steam hose leading to a steam hammer or jet pipe shall be securely attached to the hammer with an adequate length of at least 1/4 inch diameter chain or cable to prevent whipping in the event the joint at the hammer is broken. Air hammer hoses shall be provided with the same protection as required for steam lines.
- (10)** Safety chains, or equivalent means, shall be provided for each hose connection to prevent the line from thrashing around in case the coupling becomes disconnected.
- (11)** Steam line controls shall consist of two shutoff valves, one of which shall be a quick-acting lever type within easy reach of the hammer operator.

(12) Guys, outriggers, thrustouts, or counterbalances shall be provided as necessary to maintain stability of pile driver rigs.

(b) Pile driving from barges and floats. Barges or floats supporting pile driving operations shall meet the applicable requirements of §1926.605.

(c) Pile driving equipment.

(1) Engineers and winchers shall accept signals only from the designated signalers.

(2) All employees shall be kept clear when piling is being hoisted into the leads.

(3) When piles are being driven in an excavated pit, the walls of the pit shall be sloped to the angle of repose or sheet-piled and braced.

(4) When steel tube piles are being "blown out", employees shall be kept well beyond the range of falling materials.

(5) When it is necessary to cut off the tops of driven piles, pile driving operations shall be suspended except where the cutting operations are located at least twice the length of the longest pile from the driver.

(6) When driving jacked piles, all access pits shall be provided with ladders and bulkheaded curbs to prevent material from falling into the pit.

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 4-1989, f. 3/31/89, ef. 5/1/89 (temp).
APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89 (perm).

§1926.604 Site Clearing.

(a) General requirements.

(1) Employees engaged in site clearing shall be protected from hazards of irritant and toxic plants and suitably instructed in the first aid treatment available.

(2) All equipment used in site clearing operations shall be equipped with rollover guards meeting the requirements of this subpart. In addition, rider-operated equipment shall be equipped with an overhead and rear canopy guard meeting the following requirements:

(i) The overhead covering on this canopy structure shall be of not less than 1/8 inch steel plate or 1/4 inch woven wire mesh with openings no greater than 1 inch, or equivalent.

(ii) The opening in the rear of the canopy structure shall be covered with not less than 1/4 inch woven wire mesh with openings no greater than 1 inch.

(b) Specific requirements. (Reserved)

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 4-1989, f. 3/31/89, ef. 5/1/89 (temp).
APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89 (perm).

§1926.605 Marine Operations and Equipment.**(a) Material handling operations.**

(1) Operations fitting the definition of “material handling” shall be performed in conformance with applicable requirements of Part 1918, “Safety and Health Regulations for Longshoring” of this chapter. The term “longshoring operations” means the loading, unloading, moving, or handling of construction materials, equipment and supplies, etc. into, in, on, or out of any vessel from a fixed structure or shore-to-vessel, vessel-to-shore or fixed structure or vessel-to-vessel.

(b) Access to barges.

(1) Ramps for access of vehicles to or between barges shall be of adequate strength, provided with side boards, well maintained, and properly secured.

(2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp, meeting the requirements of paragraph (b)(1) of this section, or a safe walkway, shall be provided.

(3) Jacob’s ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.

(4) A Jacob’s ladder shall either hang without slack from its lashings or be pulled up entirely.

(5) When the upper end of the means of access rests on or is flush with the top of the bulwark, substantial steps properly secured and equipped with at least one substantial hand rail approximately 33 inches in height, shall be provided between the top of the bulwark and the deck.

(6) Obstructions shall not be laid on or across the gangway.

(7) The means of access shall be adequately illuminated for its full length.

(8) Unless the structure makes it impossible, the means of access shall be so located that the load will not pass over employees.

(c) Working surfaces of barges.

(1) Employees shall not be permitted to walk along the sides of covered lighters or barges with coamings more than 5 feet high, unless there is a 3-foot clear walkway, or a grab rail, or a taut handline is provided.

(2) Decks and other working surfaces shall be maintained in a safe condition.

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(3) Employees shall not be permitted to pass fore and aft, over, or around deckloads, unless there is a safe passage.

(4) Employees shall not be permitted to walk over deckloads from rail to coaming unless there is a safe passage. If it is necessary to stand at the outboard or inboard edge of the deckload where less than 24 inches of bulwark, rail, coaming, or other protection exists, all employees shall be provided with a suitable means of protection against falling from the deckload.

(d) First-aid and lifesaving equipment.

(1) Provisions for rendering first aid and medical assistance shall be in accordance with Subpart D of this part.

(2) The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch lifering with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that he is working the barge.

(3) Employees walking or working on the unguarded decks of barges shall be protected with U.S. Coast Guard-approved work vests or buoyant vests.

(e) Commercial diving operations. Commercial diving operations shall be subject to Subpart T of Part 1910, §§1910.401-1910.441, of this chapter.

(39 FR 22801, June 24, 1974, as amended at 42 FR 37674, July 22, 1977)

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 4-1989, f. 3/31/89, ef. 5/1/89 (temp).
APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89 (perm).

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DEFINITIONS APPLICABLE TO THIS SUBDIVISION

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§1926.606 Definitions Applicable to this Subdivision.

- (a) “Apron” – The area along the waterfront edge of the pier or wharf.
- (b) “Bulwark” – The side of a ship above the upper deck.
- (c) “Coaming” – The raised frame, as around a hatchway in the deck, to keep out water.
- (d) “Jacob’s ladder” – A marine ladder of rope or chain with wooden or metal rungs.
- (e) “Rail”, for the purpose of §1926.605, means a light structure serving as a guard at the outer edge of a ship's deck.

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 8-1989, f. 7/7/89, ef. 7/7/89).

OR-OSHA Admin. Order 6-1991, f. 3/18/91, ef. 4/15/91.

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