

**GI Part 21. Powered Industrial Trucks
Compared with
29 C.F.R. 1910.178 Powered Industrial Trucks**

Summary: The significant differences between GI Part 21. Powered Industrial Trucks and 29 C.F.R. 1910.178 Powered Industrial Trucks are in:

- Warning devices and lights
- Parking brakes, tires
- Operator platforms
- Steering control
- Load handling controls; direction of motion and guards
- Employer Responsibilities; operator selection
- Testing
- Permits
- Mechanical condition and maintenance
- Blocks and safety stands for maintenance
- Fuel
- Electric trucks
- Dockboards and plates
- Order picker trucks, high-lift-platforms
- Fork lift truck platforms
- Spinner knobs
- Employee Responsibilities; daily checks; parking; towing and pushing; loading trucks, trailers, and railcars
- Surveying path of travel
- Operations in hazardous areas
- Moving Trucks; operation

The comparison below show only those provisions where MIOSHA rules are different than OSHA or where MIOSHA rules are not included in 29 C.F.R.

****means there is a comparable OSHA rule to this paragraph

MIOSHA	OSHA
EQUIPMENT	
R 408.12131. Warning devices and lights. Rule 2131. (1) A truck, except a motorized hand truck, shall be equipped with an audible device to warn of approach. (2)****	No comparable OSHA provisions Equivalent

MIOSHA	OSHA
<p>R 408.12134. Parking brakes, tires.</p> <p>Rule 2134. (1) The parking brake on a sitdown rider truck shall be capable of holding the truck on the maximum grade which the truck can negotiate with rated load, or on a 15% grade, whichever is lesser. The parking brake shall be manually or automatically applied and shall remain applied until released by the operator.</p> <p>(2) Tires shall be used as recommended by the truck manufacturer.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.12136. Operator platforms.</p> <p>Rule 2136. (1) An end control, reach, narrow aisle, order picker high-lift, order picking and stacking, and motorized hand rider truck shall be equipped with a platform extended beyond the operator's position, and shall withstand a compression load equal to the weight of the loaded vehicle applied along the longitudinal axis of the truck with the outermost projection of the platform against a flat vertical surface. The back protective guard where provided shall permit rapid and unobstructed ingress or egress from the platform.</p> <p>(2) On a double end control baggage type truck or a truck which may be transported on short elevators, means shall be provided to prevent accidental folding of the operator's folding platform.</p> <p>(3) All the following apply to an order picker truck, high-lift:</p> <p>(a) A removable operator platform shall be provided with a device that attaches the platform to the lifting means.</p> <p>(b) The operator platform shall be equipped with side guard rails.</p> <p>(c) When the platform is elevated, the horizontal travel speed of the truck shall be automatically reduced to a degree necessary to maintain stability under maximum braking load and turning.</p> <p>(d) Subdivisions (a) and (c) of this subrule pertain only to a truck manufactured after the effective date of this part. (Note: The effective date was January 15, 1971.)</p>	<p>No comparable OSHA provisions</p>
<p>R 408.12137. Steering control.</p> <p>Rule 2137. (1) An employer shall assure that, except on a motorized hand and motorized hand or rider truck, the steering control of a powered industrial truck is contained within the outlines of the planes of the truck, or guarded to prevent injury to the operator during movement of the controls when passing an obstacle such as a wall, post, equipment, box, or other truck.</p> <p>(2) An employer shall assure that on a motorized hand and motorized hand or rider truck, the steering handle is provided with a guard or device to protect the operator's hands from injury when passing an obstacle such as a wall, post, equipment, box, or another truck.</p>	<p>No comparable OSHA provisions</p>

MIOSHA	OSHA
<p>R 408.12139. Load handling controls; direction of motion and guards.</p> <p>Rule 2139. (1) A lever or handle type control, including a toggle switch, shall be in accordance with the following table:</p> <p>See TABLE 1 in the standard</p> <p>(2) Moving parts that represent a hazard from the operator's position shall be protected by suitable guards.</p>	<p>No comparable OSHA provisions</p>
<p align="center">EMPLOYER RESPONSIBILITIES</p>	
<p>R 408.12151. Operator selection.</p> <p>Rule 2151. (1) An employer shall assure that an employee assigned to operate a powered industrial truck shall meet the following minimum requirements, except as noted in subrule (3) of this rule:</p> <p>(a) Have corrected vision that meets the same requirements as those for a valid Michigan driver's license. Evidence of meeting this requirement shall be a Michigan driver's license or a doctor's certificate.</p> <p>(b) Have effective use of all 4 limbs, unless the powered industrial truck has been modified, as prescribed in R 408.12132, to permit operation with fewer than 4 limbs. A prosthetic device is considered a limb when capable of being used to effectively operate the controls.</p> <p>(c) Be of a height sufficient to operate the controls and have an unobstructed view over the controls and dashboard.</p> <p>(d) Have coordination between eyes, hands, and feet.</p> <p>(e) Have freedom from known convulsive disorders and episodes of unconsciousness for a period of 1 year before obtaining a powered industrial truck operator's permit or a lesser time with the assurance from a neurologist that the disorders or episodes are under control.</p> <p>(f) Have the ability to understand signs, labels, and instructions.</p> <p>(2) An employer shall assure that an employee assigned to operate a powered industrial truck shall meet the minimum requirements stated in this rule and shall be retested not less than every 3 years.</p> <p>(3) Requirements listed in subdivisions (b) and (c) of subrule (1) of this rule and of subrule (2) of this rule are optional for operators of a motorized hand low lift truck.</p> <p>(4) An employee who was operating a powered industrial truck before November 9, 1972, but does not meet the requirements of subdivisions (a), (b), (c), and (d) of subrule (1) of this rule and of subrule (2) of this rule, may be continued as an operator if the handicap or inability does not prove detrimental to the assigned task.</p>	<p>No comparable OSHA provisions</p>

MIOSHA	OSHA
<p>R 408.12152. Training. Rule 2152. (1) to (3)****</p> <p>(4) An individual who is authorized by the employer and who has the knowledge, training, and experience to train and evaluate the competence of the operator shall provide training and evaluation.</p>	<p>Equivalent</p> <p>No comparable OSHA provisions</p>
<p>R 408.12153. Testing. Rule 2153. (1) An employer shall test an employee before authorizing the employee to operate a powered industrial truck, except a motorized hand truck. The test shall check the employees:</p> <p>(a) Operating ability. (b) Knowledge of the equipment. (c) Knowledge of state safety standard rules 2171 to 2193 of Part 21. "Powered Industrial Trucks," being R 408.12171 to R 408.12193 of the Michigan Administrative Code. (d) Knowledge of daily checks.</p> <p>(2) A performance test shall be given to determine whether the employee can operate the assigned powered industrial truck through the functions necessary to perform the required work.</p> <p>(3) An employee who has a valid permit to operate a powered industrial truck issued by another employer may be tested as prescribed in this rule without meeting the training requirements of R 408.12152.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.12154. Permits. Rule 2154. (1) An employer shall provide the employee with a permit to operate a powered industrial truck only after meeting the requirements prescribed in R 408.12151, R 408.12152, and R 408.12153. A permit is optional for operators of motorized hand low lift trucks.</p> <p>(2) An employee being trained is exempt from the permit requirement for a period of not more than 30 days, provided the employee is under the supervision of an individual who is authorized by the employer and who has the knowledge, training, and experience to train operators and to evaluate their competence, and that the training period does not endanger the trainee or other employees.</p> <p>(3) A permit shall be carried by the operator or be available upon request by a department representative at all times during working hours.</p> <p>(4) A permit shall indicate the type of truck an operator has been trained on and is qualified to operate.</p> <p>(5) A permit to operate a powered industrial truck shall be valid only with the employer who issued the permit, and the permit shall be issued for a period of not more than 3 years and shall be consistent with subrule (2) of R 408.12151. An employee who is exempt under subrule (4) of R 408.12151 may continue to operate a powered industrial truck if the employee's handicaps or inabilities do not prove detrimental to his or her task.</p>	<p>1910.178(l) Operator training. 1910.178(l)(6) Certification. The employer shall certify that each operator has been trained and evaluated as required by this paragraph (l). 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.</p>

MIOSHA	OSHA
<p>(6) A permit shall contain the following information (see sample permit):</p> <ul style="list-style-type: none"> (a) Firm name. (b) Operator's name. (c) Operator I.D. number, if any. (d) Name of issuing authority. (e) Type of truck authorized to operate. (f) Operator restrictions, if any. The permit shall state the nature of the restriction. (g) Date issued. (h) Date expiring. <p>(7) A sample permit is set forth as follows:</p> <p style="text-align: center;">SAMPLE PERMIT</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">INDUSTRIAL TRUCK OPERATOR PERMIT <i>(firm name)</i></p> <p>OPERATOR'S NAME:</p> <p>OPERATOR'S NUMBER:</p> <p>IS AUTHORIZED TO OPERATE: <i>(insert type of truck(s) authorized)</i></p> <p>RESTRICTIONS: <i>(explanation of restrictions)</i></p> <p style="text-align: center;">DATE ISSUED: <i>(month - day- year)</i></p> <p style="text-align: center;">DATE EXPIRING: <i>(month - day- year)</i></p> <p>BY ISSUING AUTHORITY: _____ TITTLE</p> </div>	<p>Continued:</p> <p>1910.178(l) Operator training.</p> <p>1910.178(l)(6) Certification. The employer shall certify that each operator has been trained and evaluated as required by this paragraph (l). 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.</p>
<p>R 408.12161. Mechanical condition and maintenance.</p> <p>Rule 2161. (1) An employer shall not permit a powered industrial truck to be used if:</p> <ul style="list-style-type: none"> (a) The service and parking brakes do not perform their intended function. (b) The fuel system leaks. (c) A lift cylinder of a load engaging means allows a downward drift of the load engaging means loaded or unloaded in excess of 5 inches in 5 minutes. (d) A tilt cylinder of a mast allows a forward drift of the mast in excess of 2 degrees in 5 minutes with the mast in a vertical position and a capacity load on the fork or load engaging means. (e) The steering mechanism allows free play of the steering wheel of more than 1/4 turn on trucks capable of speeds up to 8 miles per hour and more than 1/8 turn on trucks capable of speeds over 8 miles per hour. (f) A hydraulic system leaks and creates a hazard for an employee and equipment in the area. <p>(2) Repairs to a fuel and ignition system which involve a fire hazard shall be made only in a designated location. Repairs shall not be made in a location made hazardous by:</p> <ul style="list-style-type: none"> (a) Flammable gases or vapors. (b) Combustible dusts. (c) Ignitable fibers. 	<p>1910.178(q) Maintenance of industrial trucks.</p> <p>1910.178(q)(1) Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.</p> <p>1910.178(q)(2) No repairs shall be made in Class I, II, and III locations.</p> <p>1910.178(q)(3) Those repairs to the fuel and ignition systems of industrial trucks which involve fire hazards shall be conducted only in locations designated for such repairs.</p> <p>1910.178(q)(6) Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts, except as provided in paragraph (q)(12) of this section. Additional counter weighting of fork trucks shall not be done unless approved by the truck manufacturer.</p> <p>1910.178(q)(7) Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.</p>

MIOSHA	OSHA
R 408.12161. (3) to (9)****	Equivalent
<p>R 408.12162. Blocks and safety stands for maintenance.</p> <p>Rule 2162. (1) An employer shall provide the following:</p> <p>(a) Chock blocks, support blocks, or jack stands for the maintenance department's use when repairing powered industrial trucks or their components.</p> <p>(b) Blocks or safety stands as a means of support for powered industrial trucks elevated from the floor by a hoist or chain fall.</p> <p>(2) When repairing a powered industrial truck, an employee shall use chock blocks, support blocks, or jack stands if there is a hazard from movement.</p> <p>(3) An employee shall not place his or her body under a powered industrial truck unless the powered industrial truck is supported by properly arranged blocks or jack stands capable, in total, of supporting a minimum of 1 1/2 times the weight of the component of the truck to be repaired.</p>	<p>1910.178(q) Maintenance of industrial trucks.</p> <p>1910.178(g)(8) Trucks shall be properly positioned and brake applied before attempting to change or charge batteries.</p>
<p>R 408.12163. Fuel.</p> <p>Rule 2163. (1) An employer shall provide safety fuel cans where trucks are refueled with gasoline at other than a gas pump area.</p> <p>(2) An employer shall provide a special area for refueling that is not less than 25 feet from a source of open flame or spark and the area shall be posted to this effect.</p> <p>(3) to (4)****</p> <p>(5) Smoking while refueling is prohibited.</p> <p>(6) Fuel level shall not be checked by use of an open flame.</p> <p>(7) An employer shall ensure that an employee is protected from exposure to airborne contaminants created in exhaust gases (e.g. carbon monoxide) of fossil fuel powered industrial trucks, as required by R 325.51101 et seq., "Air Contaminants".</p>	<p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p>
<p>R 408.12164. Electric trucks.</p> <p>Rule 2164. (1) Where electric trucks are used, an employer shall provide a designated area for battery changing, charging or both which shall be performed by a trained and authorized employee.</p> <p>(2) to (4)****</p>	<p>1910.178(g) Changing and charging storage batteries.</p> <p>1910.178(g)(1) Battery charging installations shall be located in areas designated for that purpose.</p> <p>Equivalent</p>

MIOSHA	OSHA
<p>(5) Material handling equipment, such as, but not limited to, a conveyor or overhead hoist, shall be used for removing and replacing a battery. A spreader bar or an equivalent device shall be used with any overhead battery hoist so that the lifting stresses are vertical. A chain type powered battery hoist shall have a container to accumulate the excess lifting chain. When a hand hoist is used, an uncovered battery shall be covered to prevent the hand chain from shorting on cell connectors or terminals.</p> <p>(6) to (7)****</p> <p>(8) The electrolyte level shall not be checked with an open flame.</p> <p>(9) Where there is a potential for employee exposure to injurious corrosive electrolyte solutions (e.g. sulfuric acid) associated with battery powered industrial trucks, the employer shall provide both of the following:</p> <p>(a) Personal protective equipment in accordance with occupational health part 433, R 325.60001 et seq., "Personal Protective Equipment" or general industry part 33, R 408.13301 et seq., "Personal Protective Equipment".</p> <p>(b) Suitable facilities for quick drenching or flushing of eyes and body within the work area for immediate emergency use in accordance with occupational health part 472, "Medical Services And First Aid".</p>	<p>1910.178(g)(4) A conveyor, overhead hoist, or equivalent material handling equipment shall be provided for handling batteries.</p> <p>Equivalent</p> <p>No comparable OSHA provisions</p>
<p>R 408.12165. Dockboards and plates.</p> <p>Rule 2165. (1) The carrying capacity shall be marked on a dockboard or plate purchased after the effective date of this part.</p> <p>(2)****</p> <p>(3) Hand holds, or other effective means, shall be provided to permit safe handling. Where a fork truck is used, fork loops, pockets or lugs shall be provided for safe handling.</p> <p>(4) A dockboard or plate shall have a slip-resistant surface, such as but not limited to tread plate, designed to reduce the possibility of slipping by an employee or truck.</p> <p>(5) A dockboard or plate shall be designed and maintained so the end edges will have a sufficient contact with the dock or loading platform and the carrier to prevent the dockboard or plate from rocking or sliding out of position.</p> <p>(6) A portable dockboard or plate used by a powered industrial truck to bridge an opening in excess of 18 inches shall have curbs. The height of the curb on the dockboard or plate used by a powered industrial truck with solid or cushion tires shall be not less than 15% of the diameter of the largest tire of the truck, however, the maximum curb height need not exceed 3 inches.</p>	<p>No comparable OSHA provisions</p> <p>Equivalent</p> <p>1910.30 Other working surfaces. 1910.30(a)"Dockboards (bridge plates)." 1910.30(a)(3) Powered dockboards shall be designed and constructed in accordance with Commercial Standard CS202-56 (1961) "Industrial Lifts and Hinged Loading Ramps" published by the U.S. Department of Commerce, which is incorporated by reference as specified in Sec. 1910.6. 1910.30(a)(4) Handholds, or other effective means, shall be provided on portable dockboards to permit safe handling. 1910.30(a)(5) Positive protection shall be provided to prevent railroad cars from being moved while dockboards or bridge plates are in position.</p>

MIOSHA	OSHA
<p>R 408.12166. Order picker trucks, high-lift-platforms. Rule 2166. Whenever an order picker truck, high-lift is equipped with vertical only or vertical and horizontal controls traveling with the lifting carriage or forks for lifting an employee, an employer shall assure that the following is provided:</p> <ul style="list-style-type: none"> (a) A platform equipped with railing or other limiting device, including but not limited to a chain, strap or tether. (b) A control device whereby the employee on the platform can shut off the power to the truck. (c) Protection from falling objects as indicated necessary by the operating conditions. 	<p>No comparable OSHA provisions</p>
<p>R 408.12167. Fork lift truck platforms. Rule 2167. (1) An employee shall not be lifted or transported except when a platform is attached to the forks by enclosed sleeves, a safety chain or a mechanical device in such a manner that the platform cannot tip or slip. (2) A platform shall be equipped with a railing not less than 36 inches or more than 42 inches high and a toeboard. The railing shall consist of 1 of the following materials:</p> <ul style="list-style-type: none"> (a) Wood posts of at least 2 x 4 inch nominal stock; the top rail shall be made of 2 right angle pieces of not less than 1 x 4 inch nominal stock and an intermediate rail of 1 x 4 inch nominal stock. (b) Steel or aluminum pipe posts and rails of not less than 1 inch inside diameter and an intermediate rail of 3/4 inch inside diameter pipe. (c) Structural steel or aluminum posts, rails and intermediate rail of angle iron of not less than 1 x 1 x 3/16 inch size or other shapes of equal strength. (3) The intermediate rail may be omitted from 1 side. (4) A toeboard shall be made of not less than 1 inch x 4 inches nominal wood stock or a material of equal strength. 	<p>No comparable OSHA provisions</p>
<p>R 408.12169. Spinner knobs. Rule 2169. A spinner knob shall not be attached to a steering handwheel of a truck unless originally equipped with such; the truck is equipped with power steering; or the truck is equipped with an anti-kickback device on the steering mechanism. The knob shall be installed within the periphery of the handwheel.</p>	<p>No comparable OSHA provisions</p>

MIOSHA	OSHA
EMPLOYEE RESPONSIBILITIES	
<p>R 408.12171. Daily checks. Rule 2171. (1) At the start of each shift, the operator of a powered industrial truck or a qualified employee shall perform daily checks of the equipment as required by the employer. See appendix B for suggested inspection checklist. (2) An employer shall ensure that any defects that would affect the safe operation of the equipment shall be repaired before use. (3) An operator shall promptly report any defect on the powered industrial truck to the employer.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.12172. General operating rules. Rule 2172. (1) An operator shall safeguard other employees at all times. (2) to (4)****</p>	<p>No comparable OSHA provisions</p> <p>Equivalent</p>
<p>R 408.12175. Towing and pushing. Rule 2175. A truck shall not be used to tow or push railroad cars, unless it is specifically designed for that purpose. Freight car doors shall not be opened or closed by using a powered industrial truck unless it is equipped with attachments designed for that purpose.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.12176. Loading trucks, trailers, and railcars. Rule 2176. (1) to (2)**** (3) Provisions shall be made to isolate rail cars during switching operations as required by R 408.10026, "General Provisions." (4) An employer shall ensure that the landing gear of all semi-trailers are visually inspected immediately before the trailer is uncoupled from the tractor to assure ability of the landing gear to support the imposed load. (5) A semitrailer less than 30 feet in length, when not coupled to a tractor and being loaded or unloaded with a powered industrial truck, shall be provided a support capable of sustaining the load at the front. (6) An employer shall ensure that the flooring of trucks, trailers, and railroad cars are checked for breaks and weakness before they are driven onto.</p>	<p>Equivalent</p> <p>No comparable OSHA provisions</p> <p>1910.178(k) Trucks and railroad cars. 1910.178 (k)(3) Fixed jacks may be necessary to support a semitrailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.</p>
<p>R 408.12177. Surveying path of travel. Rule 2177. Before moving or stacking, an operator shall survey the path of travel in order to avoid obstacles, such as, but not limited to, pipes, light fixtures, and sprinkler systems. A safe distance shall be maintained from the edge of ramps or platforms while on an elevated dock.</p>	<p>1910.178(n) Traveling. 1910.178(n)(6) The driver shall be required to look in the direction of, and keep a clear view of the path of travel.</p>

MIOSHA	OSHA
<p>R 408.12178. Operations in hazardous areas. Rule 2178. When operating a powered industrial truck in a hazardous area, only a truck specifically equipped for such operation shall be used. See rule 2155.</p>	<p>1910.178(b) Designations. 1910.178(b)(12) The atmosphere or location shall have been classified as to whether it is hazardous or nonhazardous prior to the consideration of industrial trucks being used therein and the type of industrial truck required shall be as provided in paragraph (d) of this section for such location.</p>
<p>R 408.12179. Reporting accidents. Rule 2179. A powered industrial truck operator shall report all accidents involving injury to an employee, or damage to buildings and equipment to the employer.</p>	<p>No comparable OSHA provisions</p>
<p>MOVING TRUCKS</p>	
<p>R 408.12183. Operation. Rule 2183.(1) to (4)****</p> <p>(5) An operator shall cross railroad tracks diagonally whenever possible and shall not park closer than 8 1/2 feet from the center of a railroad track.</p>	<p>Equivalent</p> <p>1910.178(n) Traveling. 1910.178(n)(5) Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.</p>
<p>R 408.12186. Ascending and descending grades. Rule 2186. (1) An operator shall ascend and descend grades of 10% or more at a speed of not more than 2 miles per hour. (2) When ascending or descending a grade that exceeds the back-tilt of the mast, the load shall be facing upgrade. (3)****</p>	<p>1910.178(n) Traveling. 1910.178(n)(7) Grades shall be ascended or descended slowly. 1910.178(n)(7)(i) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.</p> <p>Equivalent</p>
<p>R 408.12191. Entering elevators. Rule 2191. (1) to (3)****</p> <p>(4) A truck shall not enter an elevator if the combined weight of the load and truck exceeds the capacity of the elevator.</p>	<p>Equivalent</p> <p>No comparable OSHA provisions</p>

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