



# *Don H. Mahaffey Drilling Co.*

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**POWERED INDUSTRIAL TRUCKS**

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YOUR OSHA COMPLIANCE SOLUTION

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Questions? Call 1-800-734-3574



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## 1 INTRODUCTION

Between 85 to 100 workers in the United States are killed in forklift accidents each year with an additional 35,000 serious injuries and 62,000 non-serious injuries. Don H. Mahaffey Drilling Co. is committed to providing all employees with the training and skills required to safely perform their duties. This safety manual has been developed in accordance with California Code of Regulations, Title 8, Section 3668 (Powered Industrial Truck Operator Training) with the intent to minimize the risk of injuries related to the operation of powered industrial trucks.

## 2 TRAINING PROGRAM ADMINISTRATOR

Ashley Mahaffey Tullius has been designated as the administrator for this safety manual and training program. Ashley Mahaffey Tullius will be responsible for:

- a. Creation and implementation of a powered industrial truck training program;
- b. Maintenance of training records;
- c. Assignment and communication of responsibility for all aspects of the training program;
- d. Evaluation of the powered industrial truck training program; and
- e. Updating the written safety manual and/or training program, as needed.

## 3 POWERED INDUSTRIAL TRUCKS, AN EXPLANATION OF

Powered industrial trucks encompass a broad range of equipment including fork trucks, tractors, platform lift trucks, motorized hand trucks and other specialized industrial trucks powered by electric motors or internal combustion engines. They may either be ridden on or controlled by a walking operator. Powered industrial trucks are used primarily to move materials and can also be used to raise, lower or remove large objects or a number of smaller objects on pallets or in boxes, crates or other containers.

*Note: This safety manual does not apply to compressed air or nonflammable compressed gas-operated industrial trucks, farm vehicles or to vehicles intended primarily for earth moving or over-the-road hauling.*

## 4 SAFE USE PROCEDURES

### 4.1 Pre-Use Inspection

Prior to each use, the operator should perform a visual pre-check of the equipment and the environment in which the equipment will be operated. The visual pre-check should include the items contained within this section.

#### 4.1.1 Equipment Condition

- a. The equipment is in a clean and overall good condition,
- b. The fire extinguisher is in place and charged,
- c. Fuel, oil and radiator water levels checked,
- d. The battery is fully charged and the following items are checked:
  1. No exposed wires,
  2. No loose, dirty or worn plug connections,

3. Adequate electrolyte levels in cells,
4. Vent caps are not clogged, and
5. The battery is secured in place.
- e. The hydraulic hose reels are not damaged, missing or loose,
- f. Wheel and tires are checked for air pressure, damage or wear,
- g. The forks are not bent or cracked and the positioning latches are in good working condition,
- h. The carriage teeth are not broken, chipped or worn,
- i. The chain anchor pins are not bent, loose or worn,
- j. There are no fluid leaks,
- k. All hoses are secure; not loose, crimped, worn or rubbed,
- l. The horn is operational,
- m. If supplied, the seatbelts and/or operator restraint device is fully-functioning with no visible wear or damage to any of the components, and
- n. The overhead guard is undamaged.

#### 4.1.2 Working Environment

- a. The ground/floor should be free of objects which could cause an accident,
- b. Objects to avoid while driving the equipment will be identified and noted, and
- c. Operators should verify that there are no overhead obstructions.

## 4.2 General

- a. When industrial trucks operate in areas where general lighting is less than 2 footcandles per square foot, directional lighting will be provided on the truck.
- b. Trailers disconnected from their tractor will be secured to prevent them from up-ending during loading or unloading operations.
- c. Industrial trucks will not be operated in areas that expose the operator to the hazard of collision with overhead obstructions unless the truck is equipped with overhead guards.
- d. Loads will be so balanced, braced or secured as to prevent tipping and falling. Only stable or safely-arranged loads will be handled.
- e. Batteries installed in trucks will be secured in suitable racks which are secured to the truck.
- f. Steering knobs will not be used unless the truck is equipped with power steering.
- g. When cargo is being towed on pipe trucks or similar equipment, a safe means will be provided to protect the driver from sliding loads.
- h. Counterweights will be so affixed that they cannot be accidentally dislodged.
- i. Forks, fork extensions and other attachments will be secured so that they cannot be inadvertently dislodged and will be used only in accordance with the manufacturer's recommendations.

## 4.3 Operating Rules

- a. Drivers will check the vehicle at the beginning of each shift and, if it is found to be unsafe, the matter will be reported immediately to a foreman or mechanic and the vehicle will not be put in service again until it has been made safe.
- b. Only drivers authorized by Don H. Mahaffey Drilling Co. and trained in the safe operations of industrial trucks or industrial tow tractors will be permitted to operate such vehicles.

- c. Stunt driving and horseplay are prohibited.
- d. No riders will be permitted on vehicles unless provided with adequate riding facilities.
- e. Employees will not ride on the forks of lift trucks.
- f. Employees will not place any part of their bodies outside the running lines of an industrial truck, between mast uprights or other parts of the truck where shear or crushing hazards exist.
- g. Employees will not be allowed to stand, pass or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.
- h. No truck will be operated with a leak in the fuel system.
- i. Vehicles will not exceed the authorized or safe speed
- j. Vehicles will always maintain a safe distance from other vehicles.
- k. The truck must be kept under positive control at all times.
- l. All established traffic regulations will be observed.
- m. For trucks traveling in the same direction, a safe distance may be considered to be approximately 3 truck lengths or preferably a time lapse -3 seconds -passing the same point.
- n. Trucks traveling in the same direction will not be passed at intersections, blind spots or dangerous locations.
- o. The driver will slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver will be required to travel with the load trailing.
- p. Operators will look in the direction of travel and will not move a vehicle until certain that all persons are in the clear.
- q. Trucks will not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.
- r. Grades will be ascended or descended slowly.
  - 1. When ascending or descending grades in excess of 10 percent, loaded trucks will be driven with the load upgrade.
  - 2. On all grades, the load and load engaging means will be tilted back if applicable and raised only as far as necessary to clear the road surface.
- s. The forks will always be carried as low as possible, consistent with safe operations.
- t. When leaving a vehicle unattended (the operator is over 25 feet from, or out of sight of the industrial truck), the brakes are set, the mast is brought to the vertical position and forks are left in the down position, either:
  - 1. The power will be shut off and, when left on an incline, the wheels will be blocked; or
  - 2. The power may remain on provided the wheels are blocked, front and rear.
- u. When the operator is dismounted and within 25 feet of the truck which remains in the operator's view, the load engaging means will be fully lowered, controls placed in neutral and the brakes set to prevent movement.
- v. Vehicles will not be run onto any elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver will determine that the capacity of the elevator will not be exceeded. Once on an elevator, the industrial truck's power will be shut off and the brakes set.
- w. Vehicles will not be operated on floors, sidewalk doors or platforms that will not safely support the loaded vehicle.
- x. Prior to driving onto trucks, trailers and railroad cars, their flowing will be checked for breaks and other structural weaknesses.

- y. Prior to loading/unloading, the operator will verify that trailer chocks, supports and dock plates are in place.
- z. Vehicles will not be driven in and out of highway trucks and trailers at loading docks until such trucks or trailers are securely blocked or restrained and the brakes set.
- aa. To prevent railroad cars from moving during loading or unloading operations, the car brakes will be set, wheel chocks or other recognized positive stops used and blue stop signs, blue flags or blue lights displayed in accordance with CCR T8, Section 3333 and Title 49, Code of Federal Regulations, Section 218.27.
- bb. The width of one tire on the powered industrial truck will be the minimum distance maintained from the edge by the truck while it is on any elevated dock, platform, freight car or truck.
- cc. Railroad tracks will be crossed diagonally wherever possible. Parking closer than 8-1/2 feet from the centerline of railroad tracks is prohibited.
- dd. Trucks will not be loaded in excess of their rated capacity.
- ee. A loaded vehicle will not be moved until the load is safe and secure.
- ff. Extreme care will be taken when tilting loads. Tilting forward with the load engaging means elevated will be prohibited except when picking up a load. Elevated loads will not be tilted forward except when the load is being deposited onto a storage rack or equivalent. When stacking or tiering, backward tilt will be limited to that necessary to stabilize the load.
- gg. The load-engaging device will be placed in such a manner that the load will be securely held or supported.
- hh. Special precautions will be taken in the securing and handling of loads by trucks equipped with attachments and during the operation of these trucks after the loads have been removed.
- ii. When powered industrial trucks are used to open and close doors, the following provisions will be complied with:
  - 1. A device specifically designed for opening or closing doors will be attached to the truck;
  - 2. The force applied by the device to the door will be applied parallel to the direction of travel of the door;
  - 3. The entire door opening operation will be in full view of the operator;
  - 4. The truck operator and other employees will be clear of the area where the door might fall while being opened;
  - 5. If loads are lifted by 2 or more trucks working in unison, the total weight of the load will not exceed the combined rated lifting capacity of all trucks involved; and
  - 6. When provided by the industrial truck manufacturer, an operator restraint system (such as a seatbelt) will be used.

#### 4.4 Fueling

- a. Fuel tanks will not be filled while the engine is running. Spillage will be avoided.
- b. Spillage of oil or fuel will be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- c. No truck will be operated with a leak in the fuel system until the leak has been corrected.

#### 4.5 Changing and Charging Batteries

- a. Battery charging installations will be located in areas designated for that purpose.
- b. Facilities will be provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage by trucks and for adequate ventilation for dispersal of fumes from gassing batteries.
- c. A conveyor, overhead hoist or equivalent material handling equipment will be provided for handling batteries.
- d. Reinstalled batteries will be properly positioned and secured in the truck.
- e. A carboy tilter or siphon will be provided for handling electrolyte.
- f. When charging batteries, acid will be poured into water. Water will not be poured into acid.
- g. Trucks will be properly positioned and brake applied before attempting to change or charge batteries.
- h. Care will be taken to assure that vent caps are functioning. The battery (or compartment) cover(s) will be open to dissipate heat.
- i. Smoking will be prohibited in the charging area.
- j. Precautions will be taken to prevent open flames, sparks or electric arcs in battery charging areas.
- k. Remove all metallic jewelry before recharging. Tools and other metallic objects will be kept away from the top of uncovered batteries.
- l. Wear appropriate personal protective equipment such as face shields, safety goggles, neoprene or rubber gloves and an apron.

#### 4.6 Maintenance

- a. Any power-operated industrial truck not in safe operating condition will be removed from service. All repairs will be made by authorized personnel.
- b. No repairs will be made in Class I, II and III locations.
- c. Those repairs to the fuel and ignition systems of industrial trucks which involve fire hazards will be conducted only in locations designated for such repairs.
- d. Trucks in need of repairs to the electrical system will have the battery disconnected prior to such repairs.
- e. All parts of any such industrial truck requiring replacement will be replaced only by parts equivalent as to safety with those used in the original design.
- f. Industrial trucks will 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 will they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counterweighting of for trucks will not be done unless approved by the truck manufacturer.
- g. Industrial trucks will be examined before being placed in service and will not be placed in service if the examination shows any condition adversely affecting the

safety of the vehicle. Such examination will be made at least daily. Where industrial trucks are used on a round-the-clock basis, they will be examined after each shift. Defects, when found, will be immediately reported and corrected.

- h. Water mufflers will be filled daily or as frequently as is necessary to prevent depletion of the supply of water below 75% of the filled capacity. Vehicles with mufflers having screens or other parts that may become clogged will not be operated while such screens or parts are clogged. Any vehicle that emits hazardous sparks or flames from the exhaust system will immediately be removed from service and not returned to service until the cause for the emission of such sparks and flames has been eliminated.
- i. When the temperature of any part of any truck is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle will be removed from service and not returned to service until the cause for such overheating has been eliminated.
- j. Industrial trucks will be kept in a clean condition, free of lint, excess oil and grease. Noncombustible agents will be used for cleaning trucks. Low flash point (below 100 °F) solvents will not be used. High flash points (at or above 100 °F) solvents may be used. Precautions regarding toxicity, ventilation and fire hazards will be consonant with the agent or solvent used.
- k. Industrial trucks originally approved for the use of gasoline for fuel may be converted to liquefied petroleum gas fuel provided the complete conversion results in a truck which embodies the features specified for LP or LPS designated trucks. Such conversion equipment will be approved.

## **5 OPERATOR TRAINING**

### **5.1 Safe Operation**

- 5.1.1 Each powered industrial truck operator will be competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified in this section.
- 5.1.2 Prior to permitting an employee to operate a powered industrial truck (except for training purposes), each operator will successfully complete the training required by this section, except as permitted by Section 5.5.

### **5.2 Training Program Implementation**

- 5.2.1 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.
- 5.2.2 Training will consist of a combination of:
  - a. Formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material),
  - b. Practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and
  - c. Evaluation of the operator's performance in the workplace.

- 5.2.3 All operator training and evaluation will be conducted by persons who have the knowledge, training and experience to train powered industrial truck operators and evaluate their performance.

### 5.3 Training Program Content

Powered industrial truck operators will receive initial training in the following topics, except in topics which are demonstrably not applicable to safe operation of the truck in Don H. Mahaffey Drilling Co.'s workplace.

- 5.3.1 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; and
  - 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.
- 5.3.2 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;
  - h. Closed environments and other areas where insufficient ventilations or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust; and
  - i. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.
- 5.3.3 The requirements of this safety manual.

## **5.4 Refresher Training and Evaluation**

- 5.4.1 Refresher training, including an evaluation of the effectiveness of that training, will be conducted as required by Section 5.4.2 to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.
- 5.4.2 Refresher training in relevant topics will 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.
- 5.4.3 An evaluation of each powered industrial truck operator's performance will be conducted at least once every 3 years.

## **5.5 Avoidance of Duplicative Training**

If an operator has previously received training in a topic specified in Section 5.3, 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.

## **5.6 Certification**

Don H. Mahaffey Drilling Co. will certify that each operator has been trained and evaluated as required by this section. The certification will 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.

# **6 DOCUMENTATION AND RECORDKEEPING**

## **6.1 Program and Safety Standard**

A copy of this safety manual will be made available to all employees who wish to review it.

## **6.2 Training Records**

Training records will be maintained for each employee who has completed the training as outlined within this safety manual. This record will include all items as required in Section 5.6.