

# **Powered Industrial Vehicles**

## **INTRODUCTION**

This document identifies requirements to be followed at \_\_\_\_\_ facilities when workers operate forklifts and other powered industrial trucks. Included in this document is the necessary information needed to ensure employees can safely operate these vehicles. Specific training requirements are included to meet \_\_\_\_\_ health and safety policies and other regulations. Under specific conditions re-training may be required. These conditions are also detailed within the document.

\_\_\_\_\_ locations with powered industrial vehicles may either implement their own training program or hire outside vendors. Training must occur before the employee actually operates the truck.

The training must consist of both classroom and practical instruction with the specific equipment the employee will operate.

Employees will complete the training and evaluations have been designated by the site before an employee may operate a vehicle. Records of training will be kept on file at least until the next required training session or longer as appropriate.

### **Applicability**

This document covers all \_\_\_\_\_ locations where Powered Industrial Trucks/Vehicles are operated and/or maintained. Sites will determine the best method of meeting requirements identified within this document. Corporate EH&S will ensure that program standards are established, that the program is reviewed and required updates are completed. The Site Director or equivalent is responsible for ensuring the implementation of the program at the location, allocating resources and a identifying a program administrator.

Specific sections of the regulation that are not applicable to current operations have not been listed in this document. Periodic review of the document and local site plans should be done on a regular basis by the site to ensure changes in operations have been addressed.

## Requirements for Changing and Charging Storage Batteries

Battery charging stations shall be located in areas specifically designated and identified for that purpose. A sample scope of work for changing and charging batteries is provided in the Forms tab.

- Only trained personnel are qualified to change, charge and maintain batteries.
- Ensure that proper personal protective equipment including acid resistant gloves, face shield and apron and eye wash facilities are available for use when checking batteries.
- Access to the eyewash and safety shower must remain clear at all times.
- The changing and charging areas must have facilities provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage and for adequate ventilation of charging batteries.
- Material handling devices shall be provided and used for handling batteries.
- Reinstalled batteries must be properly positioned and secured in trucks.
- Specific handling devices must be used when handling and dispensing electrolyte to prevent spills.
- When charging batteries, acid is poured into water, never water into acid.
- Materials for containing and disposal of spilled material must be stored in the immediate area.
- Material safety data sheets for any facilities chemicals used in the maintenance or operation of powered industrial trucks must be available for review.
- Ensure that trucks are properly positioned and the brake is applied before changing or charging batteries.
- Ensure that vent caps are functional. The battery compartment covers shall be open to dissipate heat when charging.
- Smoking, open flames, sparks or electric arcs are prohibited in charging areas.
- Keep tools and other metal objects away from the top of uncovered batteries.

## **Dock Safety**

Failure to properly secure trailers or containers may result in serious injury. It is the responsibility of the employee entering the trailer or container to ensure that proper securing methods have been put in place prior to entry.

Some general safety requirements are:

- Employees entering trailers or containers must be trained on safe entry procedures which include activating and securing mechanical dock locks. Employees must be able to demonstrate the safe entry procedures.
- In the absence of a dock lock employees must inspect the trailer or container to ensure that dock chocks have been set in place. Chocks should be placed on the rear driver side tire.
- Brakes on trucks shall be set and wheel chocks or dock lock mechanisms shall be used to prevent rolling while they are entered with powered industrial trucks.
- Wheel stops or other positive protection shall be provided to prevent railroad cars from moving during loading or unloading operations.
- Fixed jacks may be needed to support trailers and during loading and unloading when trailer is not connected to tractor.
- Positive protection shall be provided to prevent railroad cars from being moved while dock boards or bridge plates are in position.

## **Safe Operation**

Each operator must demonstrate competence before being allowed to operate a powered industrial truck. Each operator will be evaluated by a person designated by training and/or experience to judge the employees ability to safely operate the equipment. Operators who fail to observe safe operating practices, are involved in an accident or operate vehicles in an unsafe manner putting themselves or others at risk of injury or cause damage to product or equipment are subject to disciplinary action up to and including termination. Operators who fail to complete and document required inspection on the vehicles or who fail to report an accident or vehicles that are not safe to operate are subject to disciplinary action. The following section identifies the subjects required to demonstrate safe operation. Never attempt to operate a powered industrial vehicle unless you have been specifically trained and certified.

## Training Program Implementation

Employees being trained may operate a powered industrial truck only:

- Under the direct supervision of a person who has knowledge, training, experience and current certification to train operators and evaluate their competence.
- When operation does not endanger the trainee or other employees.

Training shall consist of a combination of formal instruction, practical training and evaluation of the operator's performance in the workplace. Training records including class attendance, test results, certification documents and renewal training shall be maintained until the next training has taken place.

Powered industrial truck operators shall receive initial training in the following topics:

### Truck Topics

- Operating instructions, warnings and precautions for the type of truck they will operate. □  
Differences between trucks and automobiles.
- Truck controls and instrumentation, where they are located, what they do and how they work.
- Engine or motor operation.
- Steering and maneuvering.
- Visibility (including restrictions due to loading).
- Fork and attachment adaptation, operation and use limitations.
- Vehicle capacity and stability
- A vehicle inspection and maintenance checklist is required to be completed before each shift or period of operation. The inspection record must be completed and attached to the vehicle while operating or otherwise immediately available for review.
- Refueling and/or charging of batteries
- Operating limitations and any other information listed in the operator's manual.

## **Workplace Topics**

- Surface conditions to be expected.
- Types of loads to be carried, stability, manipulation, stacking and unstacking.
- Pedestrian traffic.
- Narrow aisles or other restricted access areas and any hazardous areas where the truck may be operated.
- Ramps or other sloped areas that could affect stability.
- Any other hazardous environments where trucks are expected to operate.
- Any personal protective equipment required to operate the vehicle safely.

## **Refresher Training and Evaluation**

Refresher training is required whenever the operator has been observed to operate the vehicle in an unsafe manner, is involved in an accident or near-miss incident, has received an evaluation that reveals the operator is not operating the truck safely, is assigned a different type or model of truck or the condition of the workplace changes such that it could affect the safe operation of the truck. Retraining will consist of the topics described in the previous sections as required to address the incident. Licenses may be revoked immediately if unsafe actions are identified as serious and / or due to repeat offenses. Operators involved in an accident while driving a forklift will be required to pass a drug screening test before resuming forklift operation.

An evaluation of each operator's performance shall be conducted at least once every \_\_\_\_ years. Records of this evaluation shall be kept on file until the next evaluation is completed.

Certification that an operator has been trained and evaluated as required in the above sections will be provided by the company. The certification shall include the name of the operator, date of training, date of evaluation and identity of the person performing the evaluation.

# Operating Vehicles Safely

## Truck Operations

- Always complete vehicle inspections before operation of a Powered Industrial Truck.
- All work items (pens, tape guns, clip boards, radios, utility knives, etc.) must be secured and stored at all times when operating the vehicle.
- Any vehicle identified as not safe to operate will be “Red Tagged” and the operator will notify the person responsible for maintaining the vehicles. Never operate a vehicle that has been “Red Tagged”.
- Never drive a powered vehicle up to anyone standing in front of a stationary object.
- Never stand or pass under the raised portion of a truck, whether loaded or unloaded.
- Only the driver is allowed on a truck unless there is a specific accommodation provided by the manufacturer for passengers.
- Never put arms or legs between the uprights of the truck.
- When trucks are left unattended, forks shall be fully lowered, controls neutralized, power shut off and brakes set. Chock wheels if left on incline.
- An unattended vehicle is defined as the operator being more than 25 feet from the vehicle which is still in view, or whenever the vehicle is out of view.
- When a truck is unattended, within 25 feet and in view, the forks shall be lowered, controls neutralized and brakes set to prevent movement.
- Maintain a safe distance from the edge of ramps or platforms while on any elevated surface. Never use the forks to open or close dock doors or for other activities not specifically designated.
- Brakes shall be set and dock locks or chocks used to prevent movement of trucks, trailers or rail cars while loading or unloading. Fixed jacks may be required as support for trailers not connected to tractors. Inspect flooring of trailers, trucks, etc. for breaks, weakness or other problems before entry.
- Overhead guards are required as protection against falling objects. Do not travel with loads or store items on the overhead protection guard.

## Traveling

- A load backrest extension is required whenever needed to minimize loads from falling.
- Maintain a safe speed for the conditions at all times. Under all conditions you must be able to stop the truck in a safe manner. Drivers shall always maintain control of the truck. Generally, pedestrians will have the right of way. Horseplay or reckless driving is never permitted. Never store loose articles on the truck which may cause distractions during driving. Observe all stop signs and speed limits.
- Do not modify, alter or damage safety devices such as strobes or beacons, back up warnings, lights or other devices designed to protect you and others.
- Stop or slow down and sound horn at all intersections or where the view is obstructed. If the load restricts vision while traveling forward, travel with the load trailing.
- Always maintain a clear view of the path you are traveling.
- When going up or down grades, drive with the load upgrade to prevent dropping the load. Tip the load back slightly and raise the forks only as much as required to clear the grade.

## Loading

- Loads shall be within the rated capacity of the truck. Center the load whenever possible.
- Place the forks under the load as far as possible. Carefully tilt the load back before moving. Use care when tilting the load forward or backward especially when engaging a load at elevation. Only tilt forward to pick up or deposit the load. An elevated load shall not be tilted forward except when it's over a rack or other storage location. When stacking loads only use enough backward tilt to stabilize the load.



## **Maintenance of Trucks**

- Any time a truck is found to have a problem in repair or is considered to be unsafe it shall be taken out of service. The truck shall not be used until repairs are completed by authorized personnel.
- Repairs to trucks shall be done in areas specifically designated for such work considering the hazards involved.
- Trucks that need electrical repair shall have the battery disconnected.
- All repair parts shall provide the equivalent safety as the original. No alterations or replacement parts shall be used that are not approved by the original equipment manufacturer.
- All trucks shall be examined daily or before each use or shift. A red tag shall be placed on any vehicle identified as having problems. Never operate a red tag vehicle. Any problems identified shall be repaired before use. Maintain copies of inspection logs for a period of one year. A Sample inspection log can be found in the Forms tab of the program.
- Maintain trucks in clean condition. Only use materials to clean trucks that are compatible with the conditions and type of truck involved.

## **Fall Protection**

Fall Protection is an important safety aspect of industrial truck operation when working at heights. For fall protection requirements see the Fall Protection Program located in the Safety and Health Toolbox.

## **APPENDIX A – Battery Changing and Charging Procedure**

In order to insure that battery changes are performed safely, certain steps should be taken. OSHA has identified these basic battery changing and charging guidelines:

### **Changing and charging storage batteries.**

Battery charging installations shall be located in areas designated for that purpose.

Facilities shall 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.

A conveyor, overhead hoist, or equivalent material handling equipment shall be provided for handling batteries.

Reinstalled batteries shall be properly positioned and secured in the truck.

A carboy tilter or siphon shall be provided for handling electrolyte.

When charging batteries, acid shall be poured into water; water shall not be poured into acid.

Trucks shall be properly positioned and brake applied before attempting to change or charge batteries.

Care shall be taken to assure that vent caps are functioning. The battery (or compartment) cover(s) shall be open to dissipate heat.

Smoking shall be prohibited in the charging area.

Precautions shall be taken to prevent open flames, sparks or electric arcs in battery charging areas.

Tools and other metallic objects shall be kept away from the top of uncovered batteries.

**When changing or charging batteries follow these guidelines:**

There are two styles of batteries in industrial trucks today: Lead acid or nickel-iron. Both of these batteries can pose health and safety hazards.

- Sheer weight—some batteries weigh as much as 2000 lbs. or more
- Gases emitted during charging can be highly volatile
- Corrosive chemicals exist within the battery

For these reasons, battery changing stations and the employees that work around them must be properly equipped with personal protective equipment in addition to having certain safety procedures implemented.

To protect workers from danger associated with the battery's weight, the batteries should only be removed and replaced from the forklifts using a special equipped forklift or battery cart specifically designed for transporting batteries, or an automatic battery charger.

Batteries that are being removed or replaced should be securely placed and restrained in the cart or the forklift. Use the correct tools and follow proper procedures as provided from the manufacturer when moving batteries. This will ensure that the battery remains stable and does not fall.

Batteries release oxygen and hydrogen gases when they are charging. This effect, called "out gassing" is more noticeable if the battery is being overcharged. In the right concentrations, these gases can be highly explosive. Due to this "out gassing" effect, charging stations should be located in well-ventilated areas, to prevent concentrations of hydrogen and oxygen from reaching volatile levels. General or local ventilation can be provided by a fume hood or an exhaust fan. If an on-board charging system is used, the industrial truck itself should be parked in a location where there is adequate ventilation.

Sulfuric acid is a common and hazardous component in a battery. In the event of a battery acid spill, neutralizing agents should be spread on the spill. These cleanup materials should be on hand at all times. After the spill is neutralized, it can be safely cleaned up and disposed of in accordance with local ordinances. Only properly trained and authorized employees should perform an acid cleanup.

### **Personal Protective Equipment (PPE)**

Whenever changing or servicing a battery, personal protective equipment (PPE) should be worn to prevent harm if an accident should occur. The first area of concern is the weight of the battery. To protect workers against drops, proper footwear, such as steel-toe boots should be worn.

Maintaining batteries by adding water or acid also requires appropriate protection. Chemical-resistant gloves, acid apron, eyewear and face protection are a must. They will reduce the risk of injury should an acid splash occur.

Face protection must meet the ANSI Z87.1-1989 specifications or be proven equally effective. Face shields are considered as secondary eye protection only. Indirect or non-vented safety goggles should also be worn to protect the eyes.

An eye/face wash and shower are other required pieces of equipment that must be in or near a battery changing area.

According to ANSI the eye/face wash and shower must be within 10 seconds in distance of the hazard and on the same level as that hazard. This unit needs to be clearly identified with proper signs and adequate lighting.

## APPENDIX B -- SAMPLE RED TAGS

AVAILABLE THROUGH GRAINGER



## APPENDIX C – Sample Inspection Log

Forklift ID:

DATE and SHIFT:

### FORKLIFT PRE-SHIFT INSPECTION CHECKLIST

(Answer each question yes or no)

**Overhead Guard** - Are there broken welds, missing bolts, or damaged areas?

**Hydraulic Cylinders** - Is there leakage or damage on the lift, tilt, and attachment functions of the cylinders?

**Mast Assembly** - Are there broken welds, cracked or bent areas, and worn or missing stops?

**Lift Chains and rollers** - Is there wear or damage or kinks, signs of rust, or any sign that lubrication is required?

Is there squeaking?

**Forks** - Are they cracked or bent, worn, or mismatched?

Is there excessive oil or water on the forks?

**Tires** - Are there large cuts that go around the circumference of the tire?

Are there large pieces of rubber missing or separated from the rim?

Are there missing lugs?

**Battery Check** - Are the cell caps and terminal covers in place?

Are the cables missing insulation?

**Hydraulic Fluid** – Is fluid at indicated level?

Are any fluid leaks present under vehicle?

**Gauges** - Are they all properly working?

Record hour meter/miles traveled indicator reading.

**Steering** - Is there excessive free play?

If there is power steering, is the pump working?

**Brakes** – Does the pedal go all the way to the floor when you apply the service brake. Brakes should work in reverse also.

Does the parking break work? The truck should not be capable of movement when the parking brake is engaged.

**Lights** - If equipped with lights, are they working properly?

**Horn** - Does the horn and back up alarm work?

**Safety seat** - if the truck is equipped with a safety seat is it working?

**Load Handling Attachments** - Is there hesitation when hoisting or lowering the forks, when using the forward or backward tilt, or the lateral travel on the side shift? Is there excessive oil on the cylinders?

**Seat Belts** - Do they work?

**Safety Switch** - (found on stand up riding vehicles) does it work?

1. Checklist must be completed at start of each shift and retained for documentation for at least one year.
2. No forklift shall be operated when an unsafe conditions has been identified.
3. If the powered vehicle is found to be unsafe, the condition must be reported immediately to the supervisor and maintenance for repair.