

PROGRAM OVERVIEW

FORKLIFT/POWERED INDUSTRIAL TRUCK (PIT) SAFETY PROGRAM

REGULATORY STANDARD: OSHA - 29 CFR 1910.178

INTRODUCTION: This program addresses employee training, certification, truck requirements, battery charging and changing, and general operation including loading & unloading, parking and refueling of powered industrial trucks (forklifts, powered pallet jacks, sit-down, stand-up straddles, order pickers, and other special use materials handling equipment) powered by either electric motors or internal combustion engines.

TRAINING:

- Forklift and Pallet Jack operators trained (classroom)
- Forklift and Pallet Jack operators undergo practical exam in the workplace

ACTIVITIES:

- Ensure operators inspect equipment each work shift the lift is used
- Ensure operators are trained to operate the lift
- Ensure forklift operators are issued licenses (renewed every 3 years)

FORMS:

- Forklift Operator Daily Inspection Checklist
- Forklift Operator Evaluation Worksheet.
- Forklift Operator Certification Log
- Forklift Operating Use Requirements
- Training Completion Certificate
- Training Wallet Cards
- Program Assessment
- Pallet Jack Daily Inspection Checklist
- Pallet Jack Operator Evaluation Assessment
- Training Attendance Roster
- Truck Designations and Truck Use in Hazardous Atmospheres
- Operating Rules Poster (California)

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Forklift/Powered Industrial Truck (PIT) Safety Program

- 1. Purpose.** This document defines the process for managing powered industrial trucks (forklifts, walk-behinds, sit-down, stand-up straddles, order pickers, and other special use materials handling equipment) powered by either electric motors or internal combustion engines.
- 2. Scope.** Applies to all locations where Powered Industrial Trucks (PITs) and similar equipment are used or maintained. This procedure covers operator selection, training, equipment operations, and maintenance. Man-lifts, scissor lifts and other personnel lifting equipment are covered in a separate procedure.
- 3. Responsibilities.**

3.1 Management will:

- 3.1.1 Identify the tasks that require a PIT.
- 3.1.2 Assure the correct type of equipment is purchased.
- 3.1.3 Document workplace specific procedures that outline the operation, and limitations, of PIT use on company premises.
- 3.1.4 Assure operators are initially trained and relicensed every 3 years.
- 3.1.5 Ensure vehicle inspections take place at required intervals.
- 3.1.6 Assure appropriate aisle space and turning distances are maintained.
- 3.1.7 Annually evaluate the PIT Program to assure it is relevant and functioning properly.
- 3.1.8 California requires the Operating Rules poster be displayed in the work area.

3.2 Safety Officer must (as needed):

- 3.2.1 Work with the management to assure appropriate PPE and emergency equipment is provided.
- 3.2.2 Assist in the development of workplace specific PIT operation rules and procedures.
- 3.2.3 Evaluate the course content of the various PIT training courses, assuring they meet the requirements of the OSHA standard, and any additional company requirements as outlined in this procedure.

4. Procedure.

4.1 Facility Requirements:

- 4.1.1 Any use of a PIT must be in accordance with the requirements and limits identified in the owner's manual from the manufacturer. Develop and document appropriate workplace specific rules and procedures, where required.

- 4.1.2 Maintain appropriate aisle spacing; consider the width requirements of the equipment, any approved aisle storage and pedestrian aisle-width requirements.
- 4.1.3 Lighting (2 lumens per ft²) must be available or directional lighting must be provided on the vehicle.
- 4.1.4 Where noxious gas can accumulate from the vehicle exhaust, additional ventilation may be required.
- 4.1.5 Chocks used and brakes must be applied (or other positive protection provided) to prevent movement during loading and unloading for any highway trucks, railcars or similar vehicles.
- 4.1.6 Dock-boards and bridge-plates that meet OSHA requirements must be provided, as needed.
- 4.1.7 Emergency eyebaths, safety showers and PPE requirements:
 - 4.1.7.1 Charging Areas Only: Eye baths and safety showers are generally not required. PPE is generally not required for this task.
 - 4.1.7.2 Charging and Watering Stations: Eye baths and safety showers are generally not required; no additional PPE is generally required for this task. In situations where a battery is over filled or has boiled over and a spill results the following PPE will be required for clean-up: Neoprene gloves, chemical face shield, neoprene apron and safety glasses with side shields. All spills must be reported to area management at which time operations can decide if they want the emergency responders to clean up the spill, or if employees have the skills, equipment and training to respond.
 - 4.1.7.3 In California, eyebaths and safety showers, and either safety glasses with side shields or goggles are required for PIT battery charging or watering stations for any vehicle that is not rated EE or EX (explosion resistant). The only exception is in the automotive servicing and parts stores if neutralizing equipment is available, or if adequate water is available or if the transfer system is entirely a closed system and acids are handled separately.
 - 4.1.7.4 Battery Changing Areas:
 - 4.1.7.4.1 Eye baths are required.
 - 4.1.7.4.2 An alternative means of quick drenching (for example a water hose, or emergency shower) must also be available in the event of a splash to the body.
 - 4.1.7.4.3 The PPE required for this task are: safety glasses, neoprene gloves, apron, chemical face shield and steel toed safety shoes.

- 4.1.7.4.4 Overhead cranes or hoisting equipment must be provided for changing batteries.
- 4.1.7.4.5 Flushing and neutralizing equipment must be provided to assist the spill response and clean-up to flush any spilled electrolyte.
- 4.1.7.5 Electrolyte Handling/Addition: Eye baths and safety showers are required. The PPE required for this task are: safety glasses with side shields (or goggles), neoprene gloves, apron and chemical face shield. Flushing and neutralizing equipment must be provided to assist the spill response and clean-up to flush any spilled electrolyte.
- 4.1.8 California businesses must include in the training program, must post and must enforce a set of operating rules for the operators. This must occur at the time of initial assignment and at least annually thereafter.
 - 4.1.8.1 Copies of these operating rules for California must be conspicuously posted in either English or Spanish (so they can be understood by the majority of the employees).
- 4.2 PIT Vehicle Requirements:
 - 4.2.1 Restraint systems such as seat belts must be worn at all times when operating PITs, equipped with such devices.
 - 4.2.2 Ensure that all equipment is inspected at the beginning of each user's shift. Operators should look for equipment operational deficiencies and other items that would impact the safe use and operation of the truck. Inspections should be documented. Use the inspection checklist form included with this program, or an equivalent document.
 - 4.2.3 Ensure defective equipment is immediately removed from service (including all electric, mechanical, and hydraulic components) and repaired by authorized personnel.
 - 4.2.4 All trucks must be labeled, and this label maintained in a legible and readable condition. The label must indicate that the truck was approved by a recognized testing laboratory (such as UL, FM or other agency) and meets ANSI requirements for PITs.
 - 4.2.4.1 Attachments supplied by the manufacturer must be labeled with the truck weight and maximum elevation allowed.
 - 4.2.5 Platforms attached to the forks of a PIT for elevating personnel must be reviewed and approved (by either the safety officer or company management) before use. Consideration should be given to using scissors lifts or boom lifts for these activities.
 - 4.2.5.1 When personnel are elevated in PITs they must be protected from falls. "Order Pickers" and "Man-A-Board" type vehicles generally have an operator position that is protected by guardrails. If the operator leaves this position they must be provided with fall protection.

- 4.2.6 Modifications to vehicles are not allowed without manufacturer's written approval.
 - 4.2.7 Where provided on EE or EX rated PITs, the cover of the battery compartment must be closed and locked.
- 4.3 Truck Operations:
- 4.3.1 Trucks shall not be driven up to anyone.
 - 4.3.2 People may not pass underneath raised forks, or any portion of the truck.
 - 4.3.3 Only trained, licensed employees may drive or ride on PITs.
 - 4.3.4 Arms and legs (and other body parts) must remain inside the running lines of the PIT during operation and movement.
 - 4.3.5 When the operator dismounts from the vehicle, the load or forks must be fully lowered, the controls neutralized and the brakes set. The power must be shut off if the vehicle is considered unattended (i.e. operator is out of view of the PIT or more than 25 feet away).
 - 4.3.6 Safe distances from the edge of ramps or platforms must be maintained in dock areas. PITs may not be used to assist in the opening or closing freight doors.
 - 4.3.7 Headroom overhead installations, lights, pipes, sprinkler heads, etc. maintained.
 - 4.3.8 An overhead guard will be used when there are hazards from falling objects. It should be noted that an overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., not to withstand impact of a full load.
 - 4.3.9 A load backrest extension may be used to prevent the load from falling rearward.
 - 4.3.10 Only approved industrial trucks shall be used in hazardous locations.
 - 4.3.11 Fire aisles, access to stairways, and fire equipment shall be kept clear.
 - 4.3.12 Three truck lengths, at least, will be maintained when more than one PIT is used.
 - 4.3.13 Standard roadway driving rules apply (stay to the right, no passing at intersections, stop at corners and crosswalks, negotiate turns at a slower speed, etc.).
 - 4.3.14 Operators are required to face the direction of travel, keeping a clear view of the travel path. If the load being carried obstructs the forward view, the operator will travel with the load trailing. If ramps or inclines >10% are encountered, the driver will turn the load to the front to prevent the load from slipping.
 - 4.3.15 Where possible, loads should be tilted back and raised only as far as necessary to clear the floor surface.

- 4.3.16 Under all conditions, the speed of the vehicle should be so that it can safely stop. Wet and slippery surfaces must be considered when gauging the speed of the vehicle. Loose objects on the floor should be avoided.
- 4.3.17 Elevators should be entered slowly, only after assuring they are leveled. While on an elevator, PIT controls should be shut off and brakes set. Hand trucks should enter the elevator with the load end forward.
- 4.3.18 Dock-boards and bridge plates must never have their rated capacity exceeded.
- 4.3.19 Stunt driving and horseplay is not permitted.
- 4.4 Records and Documentation:
 - 4.4.1 Workplace specific training (initial and retraining) records. An *Operator Evaluation Form* must be retained. (A sample form is provided with this program, this or an equivalent form **must** be retained as documentation of the operator evaluation).
 - 4.4.2 Training records for current operators **must** be retained for the duration they will operate the vehicle. Records *should* be retained for 3 years after this point or until superceded by records for retraining.
 - 4.4.3 It is *recommended* that operators read and sign the “PIT Operator Performance Requirements” form to indicate that they understand and will adhere to the safety rules set forth when operating a PIT.

5. Safety Information.

- 5.1 Battery Charging:
 - 5.1.1 Add acid into water, not water into acid.
 - 5.1.2 Performed in designated areas only.
 - 5.1.3 Ventilation provided for battery off-gassing.
 - 5.1.4 Vent caps function to dissipate heat during charging.
 - 5.1.5 PIT parked and brake applied before charging.
 - 5.1.6 Smoking and other ignition sources are prohibited in the area (30 feet recommended).
 - 5.1.7 Metallic tools must be kept away from the tops of batteries.
- 5.2 Battery Changing:
 - 5.2.1 Hoisting equipment provided for changing batteries.
 - 5.2.2 PIT parked and brake applied before charging.
 - 5.2.3 Metallic tools must be kept away from the tops of batteries.

5.3 Electrolyte handling:

5.3.1 Spill Protective Equipment provided for flushing and neutralizing electrolyte.

5.3.2 Carboy tilter or siphon system provided for handling electrolyte.

5.3.3 Open flames may not be used to view or check electrolyte levels.

5.4 Fuel Tanks:

5.4.1 May not be filled while the engine is running.

5.4.2 Spill must be carefully washed away or completely evaporated before restarting.

5.4.3 Fuel caps must be in place before starting and at all times (except during filling).

5.4.4 Leaks must be corrected before use; leaking vehicles must be immediately removed from service. Repairs must be made by authorized persons only.

5.4.5 Liquid fuels such as gasoline and diesel fuel must be handled in accordance with NFPA standards for Flammable and Combustible Liquids.

5.4.6 Liquefied petroleum gas (LP Gas) storage and handling must be in accordance with NFPA standards for the Storage and Handling of Liquefied Petroleum Gases.

5.5 Safety Guards:

5.5.1 High Lift Rider trucks must be fitted with an overhead guard, unless operating conditions do not permit.

5.5.2 If the type of load presents a hazard, fork trucks will be equipped with a vertical load backrest extension.

5.6 Dock-boards and Bridge plates:

5.6.1 All dock-boards and bridge plates must be strong enough to carry the load imposed.

5.6.2 Portable dock-boards will be secured in position, either by being anchored or equipped with devices which will prevent their slipping.

5.6.3 Powered dock-boards shall be designed and constructed in accordance with US Department of Commerce standards for Commercial Industrial Lifts and Hinged Loading Ramps.

5.6.4 Handholds, or other effective means, shall be provided on portable dock-boards to permit safe handling.

5.6.5 Positive protection shall be provided to prevent trucks, trailers, railroad cars and other vehicles from being moved while dock-boards or bridge plates are in position.

6. Training and Information.

6.1 Initial Training:

6.1.1 Must occur before operators are allowed to operate a PIT unsupervised, and such operations may not endanger either the operations or the trainee. Training includes:

6.1.1.1 Initial information (classroom, discussion, interactive computer or video)

6.1.1.2 Evaluation and instruction on the operation of the PIT at the workplace

6.1.2 Initial Training must provide for:

6.1.2.1 PIT operation training provides skills and knowledge related to the specific truck the operator is authorized to drive. These include: truck controls, steering, vehicle stability and capacity, inspections, refueling or charging/changing of batteries, and any specific operating limitations. It also must include training in the use of any attachments.

6.1.2.2 An evaluation of the operator, in the workplace, performing typical PIT, personnel and burden carrier operations must occur initially (and again every 3 years). An *Operator Evaluation Form* must be used to document the evaluation of PIT operators. This form should be "customized" by the area where the PIT is used, to include appropriate workplace specific aspects of PIT operations, as mentioned above. A sample form is provided with this program.

6.1.2.2.1 Suggested topics for "customization" of the workplace evaluation form include: ramps and surfaces, narrow aisles, movement and manipulation of loads, visibility, pedestrian awareness, ventilation issues for exhaust fumes, uses in hazardous (classified) locations, elevators, dark or low light conditions, PPE, restraint systems, and emergency equipment procedures.

6.1.3 Each operator's performance should be evaluated on an ongoing basis to ensure PITs are operated as designed and in a safe manner. Retraining in the relevant topics and documented performance evaluations (to ensure operators understand the retraining) are required when; the operator is observed to be operating unsafely, there is an accident or near-miss, an evaluation reveals unsafe truck operation, a different type of truck or one with different controls is utilized, or a condition changes in the workplace that could affect safe truck operation.

6.1.4 If desired, require all operators to sign a statement signifying that they understand and agree to comply with *Operator Performance Requirements*.

6.2 Refresher Training:

6.2.1 Refresher training must be provided to PIT Operators that is at least equivalent to the initial training when the following occur:

- 6.2.1.1 Operators are observed to operate the vehicle in an unsafe manner
- 6.2.1.2 Operators are involved in an accident or near-miss incident
- 6.2.1.3 Operator evaluations determine that retraining is required
- 6.2.1.4 Operators are assigned to a different type of vehicle
- 6.2.1.5 Conditions in the workplace change which impact the vehicle operation e

6.3 Licensing (every 3 years):

- 6.3.1 Formal performance evaluations must be conducted and documented at least every 3 years. This evaluation should be "customized" by the area using the PIT, to include appropriate workplace specific aspects of PIT operations. Documentation is required to be retained as part of the regulations. Evidence that the operator took the class (via sign in sheet or other similar evidence) is **not** a substitute for a retained and documented *Operator Evaluation Form*. An *Operator Evaluation* form or equivalent must be used to document the evaluation.
- 6.3.2 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 in the workplace. A trained operator, who has knowledge of the application and use of the PIT at the workplace, may be competent to perform the evaluation and training for new operators.

7. Definitions.

- *PIT* - A Powered Industrial Truck such as a forklift or fork-truck, tractor, platform lift truck, motorized hand truck or other specialized industrial truck powered by an electric motor or internal combustion engine.