

Policy and Procedure 8-23

Workplace Safety – Powered Industrial Truck (Forklift) Operations

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Codes/Mandates: OSHA 29 CFR 1910.178, Powered Industrial Trucks
OSHA 1926.602, Material Handling Equipment
HFGA No. 30-1969, Flammable and Combustible Liquids Code
NFPA No. 58-1969, Storage and Handling of Liquefied Petroleum Gases

References: N/A

Forms: 8.26 Forklift Pre-Use Inspection Checklist
8.27 Forklift Pre-Use Inspection Log
8.28 Forklift Operator Evaluation

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PURPOSE

When moving materials with the use of a powered industrial truck (PIT) (e.g., forklift) there are numerous opportunities for personal injury and property damage to occur should proper procedures and caution not be used. Operating a PIT is a highly-skilled job that is dangerous if not done properly. PIT-use results in more than 100 fatalities and over 35,000 serious injuries each year in U.S. workplaces. Operators crushed by overturned vehicles are the leading cause of those fatalities. Other accidents and injuries occur when PITs are inadvertently driven off loading docks; PITs fall between docks and unsecured trailers; workers are struck by a PIT, or when workers fall while working from elevated pallets and forks. Most incidents also involve property damage.

Case studies indicate that most employee injuries and property damage can be traced to unsafe operating practices, lack of safety-rule enforcement and insufficient or inadequate training. Hence, it is the responsibility of the employer to ensure that each powered industrial truck operator is competent to operate a PIT safely, as demonstrated by the successful completion of a training and evaluation program as outlined by the Occupational Safety and Health Administration (OSHA). Employers are also responsible for ensuring that the vehicles themselves are safe to operate and that environmental conditions in which those vehicles are used are appropriate.

The purpose of the VDOF Forklift Safety Program is to comply with OSHA’s Powered-Industrial-Truck Standard (29 CFR,1910.178) with the intent that it will help prevent PIT-related accidents and injuries.

POLICY

VDOF will comply with OSHA standard 29 CFR 1910.178, Powered Industrial Trucks, which provides operator training and certification and written operational procedures for the use of PITs.

DEFINITIONS

“**Agency**” and “**VDOF**” means the Virginia Department of Forestry.

“**Commonwealth**” means the Commonwealth of Virginia.

“**Powered industrial trucks (PIT)**” are mobile, power-driven vehicles used to carry, push, pull, lift, stack or tier material. They include forklifts, platform lift trucks, motorized hand trucks and other specialized industrial trucks powered by electric motors or internal combustion engines.

PROCEDURES

Responsible Parties

Agency safety officer is responsible for development and oversight of the PIT safety program. This includes developing the educational component, recordkeeping and ensuring overall agency compliance.

Unit safety training coordinators are responsible for setting up PIT training courses within their assigned area as needs dictate. This includes, but is not limited to, scheduling instructors; locating and securing facilities; handling logistics, and assisting during the course if needed.

PIT trainers will conduct training workshops for employees in accordance with the program of study outlined herein. Persons selected as trainers will have the knowledge, training and experience to train operators and evaluate their competence.

Supervisors are responsible for designating and identifying employees who must operate PIT; communicating this need to the unit training coordinator, making certain that their employees are properly trained and certified before operating such vehicles, and ensuring that their employees follow safe operating procedures when using PITs.

Operators are responsible for attending and passing an appropriate training course before operating a PIT; renewal of operational certification every three years, and operation of PITs in adherence to all safety rules and accepted operational procedures. Employees who operate PITs must follow the safe operating procedures.

Mechanics are responsible for conducting routine maintenance and inspections of PITs and coordinating off-site repairs. They are also responsible for ensuring compliance with OSHA Standard – 29 CFR 1910.178(q), Maintenance of industrial trucks and ANSI B561-1993.

Basic Operator Requirements

All powered industrial truck (PIT) operators must meet the following basic requirements prior to initial training or renewal certification:

- ◆ Have a driver's license and good driving record.
- ◆ Must be at least 18 years old.
- ◆ No adverse vision problems that cannot be corrected by glasses or contacts.
- ◆ No adverse hearing loss that cannot be corrected with hearing aids.
- ◆ No neurological disorders that affect balance or consciousness.
- ◆ Not taking any medication that affects perception, vision or physical abilities.
- ◆ No physical impairments that would impair safe operation of the PIT.

General Operation of PITs

- ◆ Only trained personnel are permitted to operate a PIT unsupervised; operation is limited to the class vehicle(s) the operator was trained and certified on.
- ◆ Only the operator is allowed on the truck; do not allow riders.
- ◆ Only commercially-designed and manufactured platforms/baskets may be utilized to lift personnel. Platforms/baskets must be firmly secured to the lifting carriage and/or forks before use.
- ◆ Personnel will utilize fall protection equipment (i.e., harness and lanyard) when working from a raised platform/basket. The fall protection must be attached to an approved anchor point on the machine. Any additional fall protection equipment on the platform/basket, such as hook chains, shall be secured in place across the platform entrance after mounting the platform.
- ◆ Platforms/baskets may only be used for lifting personnel into place, not for transporting them from one location to another.
- ◆ Personnel will never sit, stand or climb on the guardrails of the platform; climb up or down the elevating mechanisms with the platform elevated; perform service work on the platform while it is elevated; climb from the platform to an adjacent structure; use a ladder or scaffold on a platform to extend their reach, or lean outside the basket.
- ◆ Prior to the daily use of a PIT, a pre-use inspection shall be conducted and documented using the 8.26 Forklift Pre-Use Inspection Checklist and Form 8.27 Forklift Pre-Use Inspection Log.
- ◆ Loads shall be confined to the size of the platform – no overhanging loads and no extending of the platform to accommodate oversize loads.
- ◆ Before using an electric PIT, always check to see that the charge is at least $\frac{1}{2}$ - $\frac{3}{4}$ full.
- ◆ Operate the truck at a speed that will permit stopping in a safe manner under the prevailing conditions.
- ◆ Trucks must not be driven up to anyone standing in front of a fixed object.
- ◆ When mounting or dismounting, use a three-point stance (both hands and one foot or vice-versa in contact with the unit) and never jump off.
- ◆ After mounting the vehicle, fasten the seat belt, apply the brake and shift to neutral before engaging.
- ◆ Do not wear loose clothing or dangling jewelry; use oil-resistant, non-slippery shoes, and restrain long hair.
- ◆ No person shall walk, stand or work under the elevated portion of a PIT.
- ◆ Only PITs equipped with headache racks may be operated.

- ◆ Seatbelts will be worn at all times when operating PITs equipped with them.
- ◆ Operate gasoline-powered and diesel-powered PITs in well-ventilated areas only.
- ◆ Ensure that vertical clearances are adequate before raising loads.
- ◆ A PIT is considered unattended when the operator is 25 feet or more away from the vehicle or when the operator leaves the vehicle and it is not in his/her view. When left unattended, the operator will lower the forks, shut off the engine, set the brakes and place controls in neutral.
- ◆ Operator will sound the horn and use extreme caution when meeting pedestrians; making turns and crossing aisles where visibility is restricted, and cornering.
- ◆ Operators must report all accidents, regardless of fault and severity, to the supervisor.
- ◆ Loads will not exceed the maximum load rating. Overloading can cause the unit to overturn.
- ◆ Operators should check the ID plate for the maximum capacity.
- ◆ Units will be level and stable before operating the lift – improper positioning can cause the unit to overturn. The unit will be situated on a level, hard surface while operating.
- ◆ If, at any time, a PIT is found to be in need of repair, defective or in any way unsafe, it shall be tagged as inoperable and removed from service until it has been restored to safe operating condition.

Handling and Moving Loads

Picking Up and Setting Down a Load

- ◆ Operators will only pick up stable or safely-arranged loads within the rated capacity of the PIT and items in a pallet must be secured. Securing can be accomplished by shrink-wrapping, strapping or banding. A load that is not centered may require rearranging.
- ◆ Before lifting, the operator will make sure the pallet is clear of any loose items such as screwdrivers, nails or other items that may have been used to secure the pallet. These unsecured items can act as projectiles during a lift.
- ◆ Material that is on damaged pallets, incorrectly loaded or otherwise unsafe to handle will not be moved.
- ◆ Operators will center loads when possible and exercise caution when handling off-center loads that cannot be centered.
- ◆ Operators will never lift a load with the tip of the fork.
- ◆ Operators will not lift a load while moving.
- ◆ When picking up a load, operators will follow the standard lift procedure:
 - Square up on the center of the load and approach it straight with the forks in traveling position;
 - Stop when the tips of the forks are about a foot away from the load;
 - Level the forks and slowly drive forward until the load is resting against the backrest, ensuring that the fork length is at least $\frac{2}{3}$ of the load length;
 - Stop and lift the load high enough to clear whatever is under it, and
 - Tilt the mast back to stabilize the load.
- ◆ When putting a load down, operators will follow the standard lowering procedure:
 - Square up and stop about a foot away from the target location;
 - Level the forks and then drive the rest of the way in;
 - Lower the load to the surface; tilt the forks slightly forward, and

- Look over both shoulders and back straight out until the forks clear.
- ◆ If the back of the PIT itself begins to lift at any time, operators will stop.

Driving

- ◆ Operators will not partake in horseplay.
- ◆ Operators will drive down inclines in reverse and up inclines going forward.
- ◆ Operators will keep PIT under control at all times.
- ◆ Operators will reduce speed and sound horn in locations where vision is obstructed.
- ◆ Operators will give pedestrians the right-of-way.
- ◆ Operators will look in the direction of travel.
- ◆ Operators will travel with the load tilted slightly back for stability and no more than six inches from the ground.
- ◆ Operators will drive in reverse if you are unable to see over the load.
- ◆ Operators will properly secure dock boards and bridge plates before driving over them.
- ◆ Loads will never exceed the rated capacity of the machine.

Inspections

- ◆ Mechanics will conduct thorough inspections and service on all VDOF PITs, or coordinate inspections through an outside vendor. Brakes, steering mechanisms, warning devices, lights, governors, lift overload devices, guard and safety devices, lift and tilt mechanisms, articulating axle stops and frame members shall be carefully and regularly inspected and maintained in a safe condition (ASME/ANSI B56.1 – 1993m 6.2.7) [ASME1993].
- ◆ An inspection/service log will be maintained on each machine showing dates of inspections, service performed and the name of employee/company performing the mechanical work.
- ◆ Before a PIT is placed into operation for the day, the operator will perform a pre-use inspection to identify any problems that may be present with the machine using Form 8.26 Forklift Pre-Use Inspection Checklist and Form 8.27 Forklift Pre-Use Inspection Log. These forms will be kept on file at the facility where the machine is located as proof of inspections.
- ◆ If, at any time, a PIT is found to be in need of repair, defective or in any way unsafe, it shall be tagged as inoperable and removed from service until it has been restored to safe operating condition.

Fuel (Gasoline/Diesel) Handling and Storage

- ◆ During refueling, the engine will be stopped and the operator will not be on or inside the truck.
- ◆ Smoking and open flames are prohibited when refueling and in areas where fuel containers are stored or exchanged. Also, be cautious not to generate static electricity (i.e., from cell phone usage and other means).
- ◆ Any spillage of oil or fuel must be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting the engine.
- ◆ No truck that has a leak in the fuel system will be operated. For gasoline and diesel systems look for drips and puddles.
- ◆ Liquid fuels, such as gasoline and diesel, not stored in underground or above-ground tanks will be stored in approved, labeled safety cans.

LPG (Liquefied Petroleum Gas) Handling and Storage

- ◆ The only persons allowed to switch out LPG cylinders on PITs are mechanics and certified PIT operators. To change an LP tank, the operator shall:
 - Put on gloves and safety glasses.
 - Close the valve on the old tank.
 - Turn the key to “off” position.
 - Carefully disconnect and remove the empty tank.
 - Replace and secure the new tank and connect the truck valve securely to the tank.
 - Open the valve and listen/smell for leaks.
 - If leaking, close the tank valve, slowly disconnect the fuel valve and try to re-connect.
 - If still leaking, move tank outdoors and try another tank.
- ◆ Cylinders will be changed in designated changing areas only.
- ◆ If a fuel cylinder leaks, it will be taken outside away from buildings and sources of ignition. Due to fire hazard, allowing it to empty itself is preferred to attempting to repair the leak.
- ◆ Smoking and other ignition sources are strictly prohibited in cylinder charging/changing areas. Additional precautions must be taken to prevent open flames, sparks or electric arcs. Also, be cautious not to generate static electricity (i.e., from cell phone usage).
- ◆ PIT will be properly positioned with the brake applied before attempting to change the cylinder.
- ◆ No truck that has a leak in the fuel system will be operated. Use a soap solution to check for leaks in a propane system.
- ◆ The fuel cylinder must be properly positioned and secured in the bracket at all times during operation.
- ◆ Cylinders for liquefied petroleum gas (LPG) will be stored in the following manner:
 - The capacity of LPG cylinders in any one storage facility may not exceed a total quantity of 300 pounds.
 - Cylinders stored inside buildings will not be located near exits, stairwells or in areas used for the safe egress of occupants.
 - Cylinders not in use shall be protected by collars, screw-on-type caps or closed, plugged or capped outlet valves.

Battery Handling

- ◆ Only VDOF Mechanics and other trained personnel designated by the Transportation Officer are allowed to service batteries that power electric motor trucks (e.g., add fluids, change the battery, etc.)
- ◆ The only persons allowed to service starter batteries (typically referred to as 12 volt batteries) in PITs are mechanics and certified PIT operators. Because of the hazards involved in charging and changing batteries, only trained personnel are permitted to perform such service.
- ◆ Batteries will be changed/charged in designated battery service areas only. The battery service area will be adequately lit and have acid neutralizing spill kits, a fire extinguisher, an eyewash station and personal protective equipment readily available.
- ◆ Acid resistant gloves, a face shield or chemical splash goggles must be worn when servicing lead/acid batteries, adding water and when connecting/disconnecting a charger.
- ◆ Smoking and other ignition sources are strictly prohibited within 25 feet of battery charging areas, batteries or a truck connected to a charger. Additional precautions must be taken to prevent open flames, sparks or electric arcs. Also, be cautious not to generate static electricity (i.e., from cell phone usage and other means).

- ◆ PIT will be properly positioned with the brake applied before attempting to change or charge batteries.
- ◆ When moving batteries, vent caps will be kept firmly in place to avoid electrolyte splashing.
- ◆ When charging a battery, the vent caps must be functioning and the battery or compartment cover(s) will be open to dissipate heat.
- ◆ When charging is complete, vent caps will be firmly replaced.
- ◆ Tools and other metallic objects will be kept away from the top of uncovered batteries.
- ◆ Batteries will be properly positioned and secured upon installation.
- ◆ Batteries shall be rated equivalent to, or higher than, the battery type indicated on the nameplate.

Training and Evaluation

- ◆ Only those persons (VDOF staff or external persons) who are Certified PIT Trainers shall train VDOF staff on the use of PITs. To become a trainer, the person must complete the DHRM PIT Train-the-trainer course.
- ◆ Before independently operating a PIT, a new operator must successfully complete the training and evaluation process described below:
 - **Classroom Instruction or On-line Course and Written Exam** – Training will focus on equipment operating characteristics and safe operating procedures.
 - **Hands-on Practice/Coaching** – Students will practice maneuvers with the PIT under the supervision and coaching of the trainer.
 - **Skills Evaluation** – A trainer will design a series of skill stations that will test the trainee’s ability to operate the PIT.
 - The trainer will evaluate the performance on Form 8.28 Forklift Operator Evaluation.
- ◆ Upon completion of training and evaluations, the trainer will either pass or fail the trainee. The trainer has the right to fail a trainee based on unsafe attitudes or practices even if the trainee has successfully passed the written and practical exams.
- ◆ VDOF will maintain records in the VLC showing the dates of course completion, names of the certifying instructors and the truck class that each operator is qualified to operate.
- ◆ Personnel who have not been certified to operate a PIT may do so for training purposes, but only under the direct supervision of a certified trainer.
- ◆ Training will be conducted by VDOF personnel or outside contractors who have the knowledge, training and experience to train PIT operators and evaluate their competence.

Retraining of Certified Operators

Retraining of PIT operators will take place when an accident, near miss or workplace change indicates that it is necessary. Retraining will be required if any of the following occur:

- ◆ The operator is observed operating the vehicle in an unsafe manner.
- ◆ The operator has an accident or near miss.
- ◆ Evaluation of the operator verifies unsafe operation.
- ◆ If it is determined during a proficiency refresher that the operator needs additional training.
- ◆ The operator is assigned to a different type of truck.
- ◆ A condition in the workplace changes in a manner that could affect safe operation of the truck.

Trainer Certification

VDOF PIT Trainer Certification is obtained by completing and passing both the VDOF Forklift Operator Training Course and the Powered Industrial Trucks: Train-the-Trainer course offered by the VA Department of Human Resources Management, Office of Workmen’s Compensation.

AUTHORITY

This policy and procedure is issued by the Virginia state forester.

INTERPRETATION

The director of human resources and agency safety officer are responsible for the interpretation of this policy and procedure.