

# Liberty University

## Forklift (PIT) Safety Policy/Procedures

Liberty University is committed to providing a safe and healthful work environment for our entire staff. In pursuit of this endeavor, the following Forklift, **Powered Industrial Truck (PIT)** Safety Policy/Procedures has been developed to protect employees from potential exposure to Forklift (PIT) hazards incurred from unsafe operation.

### **PURPOSE & SCOPE**

#### **PURPOSE**

The purpose of this policy/procedure is to prevent injury or property damage from the unsafe operation of powered industrial vehicles. The policy/procedure also provides the fundamentals for the operation, use, and maintenance of powered industrial trucks, including fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines (hereafter referred to as “PIT Vehicles”). This procedure has been developed to comply with OSHA 29 CFR 1910.178 – Powered Industrial Trucks (PIT).

#### **SCOPE**

This policy/procedure applies to all Liberty University (LU) personnel who operate powered industrial trucks. Liberty University will ensure that the requirements of the OSHA standard for powered industrial trucks will be adhered to. This policy/procedure addresses: employee training, safety requirements, fire protection, new purchase designs, maintenance, and general operation of fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks (PIT Vehicles) used at LU jobsites and within LU facilities. This policy/procedure includes the information contained in a general safety principles lecture portion of the classroom training, and the written test. Additionally, this procedure gives direction regarding the practical application (Hands-on) training required to meet OSHA standard requirements.

## **POLICY**

This document is considered an official policy of Liberty University and must be complied with at all times when performing work that involves the safety operation of Forklift (PIT) machines. Compliance with this document is not an option and the practices set forth in this document are for the protection of all employees and contractors. There are no exceptions to this document. Noncompliance with this policy may result in appropriate disciplinary action, up to and including termination of employment.

## **APPLICATION, IMPLEMENTATION AND RESPONSIBILITIES**

### **PROCEDURE/PROCESS STEP- responsibility and participants**

#### **Procedure/Process Step Owners**

The LU Environmental Health & Safety Department is responsible for the development and maintenance of this policy/procedures. Departmental Management is responsible to ensure adherence to this procedure and must verify that required Forklift (PIT) training documentation is in place for all affected employees. All LU employees who utilize Forklift (PIT) machines must receive documented training in the safe operation of such equipment, and machine-specific practical application training for each new or different type of Forklift (PIT) machines they are required to operate.

#### **Procedure/Process Step Users**

- Liberty University EHS Department
- LU Management
- LU Supervisors
- LU Employees
- Potential LU Contractors (as general guidance)

#### **Responsibilities**

##### **LU Management**

- Ensures that training shall be conducted by a person with the knowledge, training, and experience to train operators and evaluate their competence.
- Ensures that aisle ways are clearly defined throughout all LU facilities. The aisle way shall be of a sufficient width – at least three (3) feet wider than the largest equipment to be utilized or four (4) feet at minimum.
- Ensures that regular maintenance is conducted (or scheduled) on the PIT machines and that maintenance records are kept for each vehicle.
- Ensures that all machines operated meet national standards and bear a label indicating approval by a testing laboratory as required by OSHA 29 CFR 1910.178(a)(2).
- Requests and receives manufacturer’s approval before making any modifications to forklifts.

- Ensures that battery charging and/or refueling locations are set up and designated for that purpose.
- Ensures that appropriate PPE and eyewash equipment (where required) are provided at charging/refueling stations.
- Ensures that all operators involved in an accident or a near miss are retrained on the safe use of a forklift (PIT).
- Ensures that a current site Job Hazard Analysis (JHA) of the work environment exists and that it is used in the training.
- Ensures that following any incident, the operator's valid training certificate is revoked or suspended pending investigation outcome. (Return of certificate/permit is dependent upon root cause analysis.)

### **LU Supervisors**

- Shall strictly enforce all vehicle operation procedures.
- Shall periodically ensure and verify that all authorized personnel are trained in the operation of the vehicles as described by this document and in accordance with 29 CFR 1910.178.
- Shall periodically ensure and verify that all authorized personnel are trained in the operation of the type of PIT machine (forklift; pallet truck; rider truck; fork truck; stand up, side-loader or lift truck; etc.) which they are operating.
- Shall instruct all other employees on the applicable pedestrian safety rules.
- Shall ensure that overhead guards are used to protect against falling objects.
- Shall ensure all defective vehicles are removed from service.
- Shall immediately submit any known nonconformances found during the required pre-shift inspections to Maintenance.
- Shall not allow unauthorized personnel to ride on vehicles.

### **Operators**

- Shall not allow unauthorized personnel to ride on vehicles.
- Shall understand that it is their responsibility to watch for pedestrians.
- Shall use the correct vehicle for the job/task.
- Shall wear seat belts and all other protective equipment that is required for the vehicle while in motion.
- Shall follow all safe operating procedures.
- Shall follow all site-specific rules and be aware of all hazards.

### **Pedestrians**

- Shall never ride on powered industrial vehicles.
- Shall never stand or walk under the elevated portion of the powered industrial machines, even when empty.
- Shall stay within pedestrian walkways (if delineated).
- Shall be aware and listen for vehicle horns, especially at intersections.
- Shall cross intersections carefully.

## Procedure/Process Steps

### **Pre-Inspection**

#### General

- At the beginning of each shift, the operator must understand and complete the Pre-Use Checklist.
- The Pre-Use Checklist shall include (but not be limited to) the following items:
  - Mast
  - Forks
  - Hydraulics
  - Tires
  - Overhead Guard
  - Gauges
  - Brakes
  - Moving Parts
  - Carriage Operation
  - Seatbelt
  - Mirrors (if equipped)
  - Horn and Lights
  - Control Levers
  - Steering
  - Backup Alarm
- If any item on the Pre-Use Checklist is found to be defective, the vehicle shall be taken out of use immediately for maintenance.
- Only trained and qualified drivers will operate powered industrial vehicles.
- If the vehicle is to be used in dim areas, it shall be equipped with its own light (including vehicles that are used to load trailers).
- Nameplates and markings on vehicles shall remain intact and shall be maintained in legible condition. The manufacturer's written approval must be obtained for any modifications that affect capacity and/or safe operation. If a modification is made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed.
- The following safety guards shall be used on all powered industrial vehicles:
  - Enclosure Guards: All hazardous moving parts shall be guarded, such as exposed gears and chain-and-sprocket drives. Tires shall also be guarded to prevent objects from being propelled towards the operator.
  - Overhead Guard: An overhead guard shall be provided where there is a danger of falling objects or where loads are lifted higher than the operator's head. These guards shall extend beyond the operator's position.

- Vertical Load Backrest Extension: A load backrest extension shall be provided when the type of load presents a hazard to the operator.

### Appropriate Use of Powered Industrial Trucks

- Unauthorized personnel shall not be permitted to operate powered industrial trucks.
- Fork trucks shall never be used to lift people unless there is a properly designed safety platform securely attached to the forks and the mast.

### Lift Equipment/Components

- All powered industrial trucks must be in proper working order.
- Nameplates and markings on powered industrial trucks shall remain intact and shall be maintained in legible condition. The manufacturer's written approval must be obtained for any modifications that affect powered industrial truck capacity and/or safe operation. If a modification is made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed.
- All hazardous moving parts shall be guarded, such as exposed gears and chain-and-sprocket drives. Tires shall also be guarded to prevent objects from being propelled towards the operator.
- Any powered industrial truck with hydraulically controlled attachments shall only be used for operations for which it was designed.

### Operator Safety

- Arms and legs must not be placed between the uprights of the mast or outside running lines of the lift truck.
- Operators should never reach through the mast of a lift truck to adjust the load.
- An overhead guard shall be used as protection against falling objects.
- Never have any part of your body outside the safety rail when in motion.
- Stunt driving and horseplay shall not be permitted.
- If at any time an operator is observed committing an unsafe act, he/she will be disciplined according to the disciplinary action procedure of the university.
- Powered industrial trucks shall not be driven up to anyone standing in front of a fixed object (wall, bin, rack, etc.).
- No person shall be allowed to stand or pass under the elevated portion of any powered industrial truck, whether loaded or empty.
- Powered industrial trucks are to yield to pedestrians **AT ALL TIMES** and under all circumstances.
- If at any time the operator feels that the powered industrial vehicle is unsafe to operate, he/she shall not use the vehicle, but report it to their supervisor and lock-out/tag-out the vehicle for service.

## Traveling Guidelines

### General

- All traffic regulations and warning signs shall be observed.
- A safe distance under normal conditions shall be maintained approximately three (3) vehicle lengths from the lift truck ahead.
- Loaded lift trucks shall be driven with forks no more than 6-8 inches above the ground, with the load carried low and tilted back.
- Operators will be cognizant of the planned route and aware of areas with inadequate headroom, lighting, obstructions, and floor surface problems.
- While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.
- The driver shall always keep to the right of the aisle when possible.
- If the load being carried obstructs forward view, the driver must travel in reverse.

### Use of Safety Equipment

- Operators shall wear seatbelts at all times while the lift truck is in use.
- Operators shall use all facility/site observation mirrors.
- Operators will properly secure dock boards or bridge plates before they are driven over.
- Dock boards or bridge plates will be driven over carefully and slowly, and their rated capacity never exceeded.
- A lift truck used in dim areas shall be equipped with its own light (including vehicles that are used to load trailers).

### Non-Normal Conditions

- Operators shall drive cautiously on uneven, wet, or slippery surfaces.
- Operators shall avoid running over loose objects on the roadway surface.
- The operator must always slow down and sound the horn at cross aisles and when approaching blind corners, intersections, or other locations where vision is obstructed.

### Traveling on Grades/Inclines

- Grades shall be ascended or descended slowly.
- The load shall be pointed uphill when the gradient is greater than 10 percent and when a load is being carried.
- Operators shall not attempt to change direction (turn the steering wheel) while traveling up or down any incline. Changing direction while on an incline can cause a dramatic change in the center of gravity and can cause the powered industrial truck to tip over. *This condition must be avoided in all circumstances.*

## Traveling “Don’ts”

- The operator shall never push one load with another load.
- Loads shall not be raised or lowered while traveling.
- Operators shall not carry anything on the overhead guard.
- The operator must never attempt to get off a powered industrial truck before it comes to a complete stop.
- No operator shall drink or eat while operating a powered industrial truck.

**If an operator is either witnessed in an unsafe act or has been involved in an Incident, his/her driving privileges will be revoked by the LU Supervisor until an investigation is conducted.**

## **Loading/Unloading**

### General

- A load backrest extension will be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.
- Operators will ensure load is within the powered industrial truck’s rated capacity (listed on specification plate).
- Operators will place load squarely on forks until load touches carriage. The forks must be placed under the load as far as possible.
- Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
- Extreme care shall be used when tilting the load forward or backward, especially when the load is raised.
- The mast shall be carefully tilted backward to stabilize the load.
- The operator shall remove unsafe containers and damaged pallets.
- Before loading or unloading a trailer with a lift truck, the operator shall:
  - ensure the brakes on the trailer are set
  - ensure the trailer is restrained to prevent movement by using wheel chocks, blocks, and/or fixed jacks
  - ensure loading platform is positioned properly
  - inspect the flooring of trailers for breaks and weaknesses before driving a lift truck into them.

## **Lifting of Loads**

### **Maintaining a PIT Stability Triangle—Inch Pound equation:**

- The Inch Pound equation is used when a weight is to be lifted that does not fit within the load center parameters listed on the capacity plate.
  - You must determine the maximum Inch Pound capacity of the truck

- To do this, you must use the equation:
  - $(A + B) \times C = \text{Inch Pound}$ 
    - A is the distance from the front axle to the mast
    - B is the distance from the mast to the load center
    - C is the weight limit of the truck at a specified load center
  - Finally, take calculated inch pounds and divide by (A+B) to solve for C, which will give the new load center rated poundage

### Trailers

- Before loading or unloading a trailer with a lift truck, the operator shall:
  - ensure the brakes on the trailer are set
  - ensure the trailer is restrained to prevent movement by using wheel chocks, blocks, and/or fixed jacks
  - ensure loading platform is positioned properly
  - inspect the flooring of trailers for breaks and weaknesses before driving a lift truck into them

### Material Storage Areas

- Operators must be careful not to damage lights, pipes, sprinkler systems, overhead doors, vertical beams, walls, etc. when stacking material.
- Operators will ensure, if loading/unloading onto or from racks, the proper safe weight or height-to-load ratio is maintained.
- Operators will never tilt the load except where the load is on a deposit position over a rack or stack.

### Fueling/Refueling and Fuel Storage

- Fuel gasoline, diesel, and propane forklifts (PIT) machines should be used outdoors only unless equipped with a scrubber
- Wear appropriate personal protective equipment (PPE) when refueling
- Close the valve for the propane bottle while the engine is running to consume all gas in the line
- LP Gas Cylinders should be stored correctly as per NFPA 58 requirements, in well ventilated areas, securely and away from other combustible or flammable substances or materials

### Tiering

- Only stable and secure loads may be tiered.
- Only loads that have been stretch wrapped may be stacked (tiered) on top of one another. This includes the bottom load.
- Never stack material so that it causes blind spots at corners and intersections.
- Operators shall stack material only on a stable base which is sufficient in size and capable of supporting the stacked weight.



- Extreme care shall be used when tilting the load forward or backward, particularly when high tiering.
- An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack.
- When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

### **Parking Guidelines**

- When leaving a powered industrial truck unattended (meaning vehicle is not in view or is in view, but is more than 25 feet away), the operator shall ensure the following:
  - Forks shall be fully lowered and tilted down
  - The transmission is in neutral
  - Power shut off
  - Brakes set
  - Wheels are chocked if the truck is parked on an incline.
- The operator must select flat parking surfaces, away from traffic where the powered industrial truck does not block doors, pedestrian routes, aisles, exits, etc.
- Fire aisles, fire doors, access to stairways, fire equipment, and emergency exits shall be kept clear at all times.

### **Battery Charging**

- Batteries shall be charged only in the battery charging area. If the battery charging areas is indoors, proper ventilation is required.
- Powered industrial trucks shall be properly positioned and the brake applied before attempting to change or charge batteries. Material handling equipment shall be utilized for handling batteries.
- Precautions shall be taken to prevent open flames, sparks, or electric arcs in the battery charging area.
- Tools and metallic objects must be kept away from the top of uncovered batteries.
- Make sure that reinstalled batteries are properly positioned and secured in the powered industrial truck.
- Cleanup shall be performed immediately when any spill occurs.
- If a spill occurs, the powered industrial truck shall be moved from the area and the area cordoned (with tape or other barrier), until the battery and spills are completely cleaned.
- An eyewash station should be demarcated and positioned within 10 to 15 feet from battery charging stations, such eyewash stations shall be inspected monthly, and maintenance performed as per manufacturer's instructions.

### **Inspection/Maintenance**

#### General

- Documentation shall be maintained of all inspection and maintenance activities. A file shall be maintained for each powered industrial truck, which contains the maintenance and inspection records for that vehicle.
- Operators will remove a powered industrial truck from service any time it is found to be in need of repair, defective, or in any way unsafe. The truck will remain out of service until it has been restored to safe operating condition.

### Inspection

- **The Pre-Use Checklist must be filled out completely by each operator at the start of each shift before the vehicle is put into operation.** Upon completion, this form will be forwarded to the supervisor for review and scheduling of any maintenance or repair needed.
- If at any time the operator feels that a powered industrial vehicle is unsafe to operate, then he/she should not use the vehicle but report it to their supervisor and lock-out/tag-out the vehicle.

### Maintenance

- A Preventative Maintenance (PM) schedule will be maintained in accordance with the manufacturer's recommendations; any defect discovered during this PM that affects the safe operation of the powered industrial truck is to be repaired immediately.

### **Training**

#### General

- All employees who operate powered industrial trucks are required to successfully complete a training program consisting of classroom instruction and driving evaluations, before being allowed and authorized to operate any powered industrial truck. **There will be no exceptions to this requirement. As per OSHA 29 CFR 1910.178(I)(4)(ii)(E), all PIT licensed operators shall receive skills re-evaluation every three years.**
- The training program may be administered in any combination of web-based training, an in-house authorized trainer, or qualified outside vendor. In any case, training must be consistent for all employees being trained, and must cover all elements of this procedure.
- Effective the date this document is published, a copy of this written procedure will be available as a resource for review by all employees at locations throughout their facilities.

#### Re-Training

- Mandatory re-training shall be provided when:
  - The operator has been observed to operate a powered industrial truck in an unsafe manner.
  - The operator has been involved in an accident or near miss accident.
  - The operator is instructed to drive a different type of powered industrial truck from what he/she was trained upon.

- A condition of the workplace changes in a manner that could affect safe operation of the powered industrial truck.
- Mandatory re-training will consist of:
  - Re-taking the classroom instruction
  - Re-taking the test
  - Re-evaluation of operation skills every three years

## **ENFORCEMENT**

Failure to follow the Liberty University Forklift (PIT) Safety Policy/Procedure can result in life threatening or serious injury situations to staff, faculty, students, and visitors. Failure to follow the Liberty University Forklift (PIT) Safety Policy and Standard Operating Procedures can result in disciplinary action up to and including discharge.

## **GLOSSARY OF TERMS**

<b>Term</b>	<b>Operational Definition</b>
Forklift	A common term for several types of drivable powered industrial trucks
Job Hazard Analysis	A technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. Ideally, after uncontrolled hazards are identified, steps can be taken to eliminate or reduce them to an acceptable risk level.
OSHA	Occupational Safety and Health Administration
Pallet Truck (Ride-on)	A common term for several types of drivable powered industrial pallet lift devices, which are rideable
Powered Industrial Truck (PIT)	OSHA defines this as any fork truck, tractor, platform lift truck, motorized hand truck, and other specialized industrial truck powered by electric motor or internal combustion engine.
Rated Capacity	The amount of weight the forklift can lift as determined by the manufacturer; the rated capacity can be found on the forklift's ID plate and in the manufacturer's operator's manual.
Fixed Facilities	Warehouses, and other permanent location properties of Liberty University

## **APPLICABLE REGULATIONS, STANDARDS AND REFERENCES**

<b><u>Item</u></b>	<b><u>Document # or Reference Material</u></b>	<b><u>Title</u></b>	<b><u>Location</u></b>
1.	29 CFR 1910.178	OSHA Powered Industrial Trucks Standard	<a href="https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9797&amp;p_table=STANDARDS">https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9797&amp;p_table=STANDARDS</a>
2.	29 CFR 1926.601-602	OSHA Motor Vehicles and Material Handling Equipment	<a href="https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9797&amp;p_table=STANDARDS">https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9797&amp;p_table=STANDARDS</a>
3.	29 CFR 1910.134	OSHA Personal Protective Equipment (Eyewash Protective PPE)	<a href="https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=12716&amp;p_table=standards">https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=12716&amp;p_table=standards</a>

# Liberty University Forklift (PIT) Safety Procedure

## Revision Tracking

Revision Number	Revision Description	Revision Location	Date Originated/Revised	Policy Author/Reviser:	Policy Approvers
	Original		Jan 2023	Bob Drane – A Greg Bennett - R	Greg Bennett John Peterson Ronald Sloan

# Document Approval Sheet

## Liberty University Forklift (PIT) Safety Procedure

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