



Powered Industrial Trucks Procedure

1. Purpose

- 1.1. This procedure outlines the requirements for safely operating powered industrial trucks (PITs) in accordance with 29 CFR 1910.178 and ANSI B56.1a-2018. We aim to go beyond basic regulatory compliance by defining essential practices that prevent injuries, ensure proper equipment operation, and protect property.

2. Scope

- 2.1. This procedure applies to all powered industrial trucks that the University owns or rents. It does not apply to industrial trucks powered by compressed air or nonflammable compressed gases, agricultural vehicles, or equipment designed primarily for earthmoving or highway hauling.

3. Definitions

- 3.1. Attachment: a device other than conventional forks or load backrest extension, mounted permanently or removably on the elevating mechanism of a PIT for handling the load.
- 3.2. Center of Gravity (of load): that point at which the load mass is concentrated.
- 3.3. Dock: an area where industrial trucks transfer product to and from road or rail conveyances, where the operating surface for the industrial truck is approximately the same level as the road or rail conveyance load carrying surface.
- 3.4. Dockboard: a portable or fixed device for spanning the gap or compensating for a difference in level between loading platforms and road or rail conveyances.
- 3.5. Fork Extension: a lift truck attachment that is added to the PIT fork to increase the fork's effective length for handling oversized uniformly distributed loads.
- 3.6. Fork Height: the vertical distance from the floor to the horizontal load-carrying surface of the forks, measured adjacent to the heel of the forks, and in the case of reach trucks, with the forks extended.
- 3.7. Forks: horizontal tine-like projections, normally suspended from the carriage, for engaging and supporting loads.
- 3.8. Load Backrest: that portion of the carriage and forks serving to restrain the load when the load is tilted rearward or upward.



- 3.9. Load Backrest Extension: a removable device that increases the load restraining area beyond that provided by the load backrest.
 - 3.10. Mast: the support member providing the guideways permitting vertical movement of the carriage.
 - 3.11. Operator: a trained and authorized person who controls any function(s) of a powered industrial truck.
 - 3.12. Overhead Guard: a framework fitted to a PIT over the head of a riding operator to protect the operator from falling objects.
 - 3.13. Powered Industrial Truck (PIT): a mobile powered propelled truck used to carry, push, pull, lift, stack, or tier material. This includes fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines.
 - 3.14. Qualified Trainer: a person who, by possession of a recognized degree, certificate, or professional standing, or who by knowledge, training, and experience, has demonstrated the ability to train and evaluate PIT operators.
 - 3.15. Rated Capacity: for a PIT equipped with load carriage and forks or attachments, it is the weight established by the manufacturer at a required load center that a given PIT can transport and stack to a height established by the manufacturer.
 - 3.16. Tiering: the process of placing one load on or above another.
4. Responsibilities
- 4.1. Departmental Managers/Supervisors:
 - 4.1.1. Ensure staff follow the program requirements.
 - 4.1.2. Provide and maintain access to the operator's manual.
 - 4.1.3. Obtain and retain the PIT's parts and service manuals.
 - 4.1.4. Maintain PITs according to manufacturer and program standards.
 - 4.1.5. Allow only trained and authorized personnel to operate PITs.
 - 4.2. Employee/Operator: Operate PITs safely and follow all training and safety procedures.
 - 4.3. Risk Management and Safety:



- 4.3.1. Perform biennial audits and revise the program as needed.
- 4.3.2. Deliver initial training to all PIT operators.
- 4.3.3. Maintain records of trained and approved operators.
- 4.3.4. Approve trainers who conduct PIT-specific familiarization training.
- 4.3.5. Offer technical support for safety-related concerns.
- 4.3.6. Audit departments regularly to ensure inspections, maintenance, and training remain current and properly documented.
- 4.3.7. Maintain a contract with a qualified vendor for annual inspections and routine maintenance.

5. Inspections

- 5.1. Operators must inspect PITs at the start of each shift or before use, whichever comes first. They must complete and document the inspection using the electronic pre-use form located on the equipment (Appendix A).
- 5.2. If a PIT needs repair or appears unsafe, the operator must report the issue immediately. Secure and remove the PIT from service until repaired. Do not operate the PIT until authorized personnel restore it to safe working condition.

6. Maintenance

- 6.1. Only authorized personnel may perform PIT repairs.
- 6.2. Do not modify or add equipment to a PIT without the manufacturer's written approval.
- 6.3. Update all capacity, operation, and maintenance instruction labels, tags, or decals following any modifications.

7. Battery Charging and Fueling

- 7.1. Perform battery charging and fueling only in well-ventilated, non-hazardous areas.
- 7.2. Place at least one 10lb ABC fire extinguisher within 20 feet of the charging/fueling station.
- 7.3. Shut down the engine while refueling.
- 7.4. Only qualified contractors may perform battery maintenance. Notre Dame employees must not refill batteries.
- 7.5. Store LPG tanks in a secure enclosure.
- 7.6. Operators must wear gloves, safety glasses, long sleeves, and safety-toe shoes



when changing LPG tanks to protect against frostbite from a propane leak or injury from accidental impact.

8. PIT Safety Features

8.1. MANDATORY

- 8.1.1. Seat belt – (brightly colored seatbelt is suggested)
- 8.1.2. Operator-controlled horn, whistle, gong, or another sound-producing device
- 8.1.3. Strobe light
- 8.1.4. Overhead guard

8.2. RECOMMENDED

- 8.2.1. Swivel seat (reduces ergonomic strain while driving in reverse)
- 8.2.2. Impact monitoring system
- 8.2.3. Computerized inspection/badging system
- 8.2.4. Presence-sensing devices
- 8.2.5. Backup pedestrian spotlight, warning system
- 8.2.6. Backup handle with horn

9. PIT Operations

- 9.1. Operators must not drive PITs toward anyone standing in front of a fixed object.
- 9.2. Operators must not allow anyone to stand or walk under elevated parts of a PIT regardless of the presence of a load.
- 9.3. Passengers should not be allowed on forklifts unless the forklift is specifically designed to accommodate passengers. Only authorized personnel are allowed to ride on a PIT.
- 9.4. Operators must keep their hands and feet inside the designated operator area and avoid placing materials in that space that could interfere with safe operation.
- 9.5. Secure any external materials to keep them to a minimum.
- 9.6. Operators must wear seatbelts when using sit-down PITs.
- 9.7. A PIT becomes “unattended” when the operator is 25 feet or more away while it remains in view, or any time the operator leaves it out of sight. When leaving a PIT unattended, lower the load, neutralize controls, shut off power, set brakes, and block wheels if on an incline. Remove the key.



- 9.8. Maintain a safe distance from ramp/platform edges and avoid using PITs to open or close freight doors.
 - 9.9. Set the brakes and place wheel blocks or dock locks before loading or unloading trucks or trailers. Inspect the flooring in trailers for stability before entry.
 - 9.10. Ensure adequate overhead clearance in all work areas.
 - 9.11. Use the load backrest extension when necessary to prevent items from falling backward.
 - 9.12. Keep fire aisles, stair access, walkways, and fire equipment areas clear at all times.
10. Traveling
- 10.1. Operators must observe all rules, maintain a safe distance (approximately three PIT lengths) from others, and drive at the lowest safe speed.
 - 10.2. Yield the right of way to pedestrians and emergency vehicles.
 - 10.3. Do not pass other PITs at intersections or blind spots.
 - 10.4. Slow down and use the horn at cross aisles and areas with obstructed views.
 - 10.5. If the load blocks the operator's view, travel with the load trailing. Always look and maintain a clear view in the direction of travel.
 - 10.6. Ascend and descend grades slowly. If the grade exceeds 10%, drive with the load uphill. Tilt the load and forks back slightly when on a grade and lift only as high as needed to clear the surface.
 - 10.7. Avoid stunt driving and horseplay.
 - 10.8. Slow down on wet or slippery surfaces.
 - 10.9. Secure dock boards and bridge plates before crossing. Cross slowly and never exceed their rated capacity.
 - 10.10. Approach elevators slowly, enter squarely once level, then neutralize controls, shut off the engine, and set the brakes inside the elevator.
 - 10.11. Slow down during turns and navigate corners carefully.



11. Loading

- 11.1. Handle only stable, secure loads that are within the PIT's rated capacity.
- 11.2. Treat PITs with attachments as partially loaded, even when not carrying a load.
- 11.3. Insert forks fully under the load and tilt the mast back slightly for stability.
- 11.4. Avoid lifting loads forward unless necessary to pick up or deposit them.
- 11.5. Use only the backward tilt needed for stabilization during stacking or tiering.

12. Using Forklifts as Aerial Lifts

- 12.1. Obtain written manufacturer approval before using a forklift as an aerial lift.
Update the PIT's instruction labels accordingly.
- 12.2. Operators must:
 - 12.2.1. Use only an approved personnel cage with guardrails and fall protection.
 - 12.2.2. Secure the cage to the carriage (not the forks). Do not lift personnel on pallets or directly on forks.
 - 12.2.3. Position the forklift beneath the work area before loading personnel.
 - 12.2.4. Set brakes, neutralize travel controls, and chock wheels before elevating.
 - 12.2.5. Remain at the controls while personnel are elevated.
 - 12.2.6. Operate the lift smoothly and keep the cage level and centered.
 - 12.2.7. Require hard hats and fall protection harness with lanyards attached to approved anchor points.
 - 12.2.8. Ensure personnel remain on the cage floor and never use ladders or planks for extra height.
 - 12.2.9. Allow entry and exit only when the cage is fully lowered. Prohibit climbing on any part of the forklift.

13. Training

- 13.1. Before operating a PIT (except during training), employees must complete a course that includes classroom instruction, hands-on training, and performance evaluation.
- 13.2. Trainees may operate PITs only under the direct supervision of a qualified trainer and only when safe.



- 13.3. Classroom training includes a written test. Topics include:
 - 13.3.1. PIT operations, warnings, and controls
 - 13.3.2. Differences between PITs and automobiles
 - 13.3.3. Engine and motor function
 - 13.3.4. Steering, maneuvering, and visibility
 - 13.3.5. Attachments and limitations
 - 13.3.6. Load composition, stacking, and stability
 - 13.3.7. Refueling/charging procedures
 - 13.3.8. Surface conditions, aisles, ramps, and hazardous locations
 - 13.3.9. Environmental risks, such as poor ventilation
- 13.4. Provide ample supervised practice time in a safe, unobstructed area. Maintain a 1:1 ratio between trainer and trainee during motion exercises.
- 13.5. Conduct a formal evaluation after training. Certify each operator by documenting the department, date, PIT type(s), restrictions, and trainer identity.
- 13.6. Evaluate operator performance every three years. Deliver refresher training when:
 - 13.6.1. The operator behaves unsafely
 - 13.6.2. An incident occurs
 - 13.6.3. The operator uses a different PIT or attachment
 - 13.6.4. Workplace conditions change
- 13.7. Trainers must understand equipment, inspection, maintenance, and OSHA standards.
- 14. Records Retention
 - 14.1. Risk Management and Safety: Keep operator training records for five years.
 - 14.2. Departments: Maintain inspection and maintenance records for the PIT's lifetime.
- 15. Procedure Evaluation
 - 15.1. Risk Management and Safety will perform a biennial documented audit. The audit includes PIT and record inspections and verifies that personnel follow the procedures. RMS will revise the program and training process based on audit findings. Departments must correct all deficiencies or deviations.



Revision History Table

History	Effective Date
Revised	February 2019
Revised significant grammatical changes to improve clarity and make the program more concise. Removed paper options for pre-use inspections and replaced Appendix A with links to electronic pre-use.	July 2025



Appendix A

[Forklift Pre-Use Inspection](#)

[Powered Pallet Jack Pre-Use Inspection](#)