



Powered Industrial Truck Safety

Powered industrial trucks (PIT) are commonly referred to as forklifts or lift trucks and they are utilized within a variety of industries to move heavy objects or a number of smaller items onto pallets, crates or other containers. According to the Bureau of Labor Statistics (BLS), powered industrial trucks cause approximately 100 fatalities and over 20,000 serious injuries annually. Approximately 25% of the fatalities are due to forklift overturns.

Most powered industrial truck injuries occur when individuals inadvertently drive the forklift off loading ramp/docks, lifts fall between docks and unsecured trailers or when they fall from elevated platforms. The safe operation of a forklift involves training, preparation and focus to maintain control of the unit at all times.

Companies can take steps to reduce forklift injuries by developing and implementing operator training and standard operating procedures and enforcing safety rules with documented disciplinary action.

TRAINING GUIDELINES

All powered truck operators must be trained and certified by their organization. An effective program requires that only trained and competent individuals be permitted to operate a powered industrial truck. A training program should be developed and implemented based on the general principles of safe truck operation and should consist of formal instruction, practical training and evaluation. Formal (lecture, video, etc...) and practical (demonstration and practical exercises) training need to be provided along with evaluation of the employee's skills and abilities.

Employers should ensure that the operator has received this training and evaluate the operator's performance every 3 years. Refresher training is necessary when an individual has demonstrated deficiency in the safe operation of a forklift and/or has been involved in a forklift accident or near miss situation.

TYPES OF POWERED INDUSTRIAL TRUCKS

There are different types of forklift classes based on the company's needs and the type of work being performed. Below are some of the most commonly used trucks:

- Class I Electric Motor Rider Trucks
- Class II Electric Narrow Aisle Trucks
- Class III Electric Motor Hand Trucks or Hand Rider Truck
- Class IV Internal Combustion Engine Trucks with cushion tires
- Class V Internal Combustion Engine Trucks with pneumatic tires
- Class VI Electric & Internal Combustion Engine Tractors
- Class VII Rough Terrain Forklift Trucks

Be sure to read the Operator's Manual for the type of truck being used and follow all manufacturer's instructions and recommendations.

TRUCK RELATED TOPICS

These include operating instructions, warnings and precautions for the types of truck the operator will be authorized to operate. Based on the type of PIT, review the operator's manual for specific warnings and precautions.

The following topics should be addressed during training:

- **Steering** – Address awareness, speed and changes in the surroundings. The differences between a PIT and automobile should be addressed.
- **Suspension** – Differences between automobile and PIT such as four point suspension (automobile) and three point suspension (PIT).
- **Visibility** – Limited visibility in a truck.
- **Maneuverability** – Ramp and incline with or without load. Other specifics that may be appropriate to your workplace environment.

- **Seat Belts** – Seat belts should be worn while operating a forklift.
- **Controls** – Operators should be familiar with all parts of the trucks they drive. Below is a diagram showing the major parts. Refer to the operator’s manual for the specific truck at your worksite.

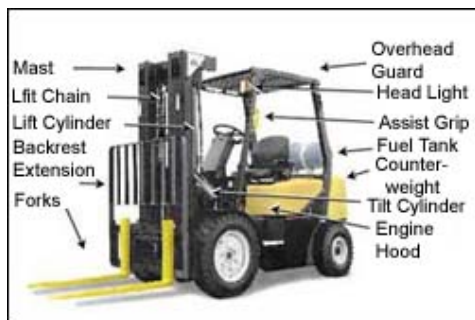


Photo: Occupational Safety and Health Administration

- **Vehicle Capacity** – Focus on the size, weight and position of the load and the impact on the stability of the PIT.
- **Inspection and Maintenance** – Review operator inspection and maintenance practices. Include a visual pre-inspection and an operational inspection.
- **Refueling and Recharging** – Specifics for the PIT refueling and recharging should be reviewed. Include personal protective equipment (PPE) and other specific safety precautions for this exposure. Power sources include:
 - Liquid petroleum (LPG)
 - Gasoline or diesel
 - Electric – on board battery use
- **Operating limitations** – These include surfaces, pedestrians, weight/load restrictions, loading docks and any other specifics at your worksite.

Address additional operational instructions, warnings or precautions listed in the operator’s manual for the type of PIT being utilized in the workplace.

Safe Practices Associated With PIT Operation

Pre Operation – Powered industrial trucks should be inspected before use on each shift. A truck in need of repairs and/or is defective should be taken out of

service until repairs are made for safe operation. Only trained operators can operate a forklift. Maintain maintenance and inspection logs.

Traveling and Maneuvering - Utilize safe operational practices to prevent accidents. Operators should maintain control of the unit, ensure visibility and operate forklift at safe speeds for the worksite conditions. Seat belts should be worn during travel.

Load Handling - Forklifts are utilized for picking up, transporting and stacking/unstacking loads.

Safe Load Handling

Position the load according to the recommended center. Loads should be kept close to the front wheels to keep lift load stable. Safe load handling practices include:

- **Safe handling preparation** – Ensure load is stable, centered and balanced per PIT operational manual. Distribute the heaviest part of load nearest front wheels of the forklift.
- **Approaching** – Approach load safely and carefully. Do not raise or lower the forks unless forklift is stopped and brake is set. Prior to raising load, ensure there is adequate overhead clearance. Vision can be obstructed by the load.
- **Mast position** – Be aware of tip over and dropped loads while moving the mast. Use caution when handling loads that approach the trucks maximum rated capacity. Never travel with load tilted forward.
- **Fork position** – While moving the forks into position, be aware of tip over, dropped load and collision.
- **Lifting the load** - Never raise or lower the load when traveling.
- **Lowering the load** – Be aware of falling loads and striking objects while lowering the load.
- **High tiering** – Potential hazards involve overloading and tip over.
- **Truck trailer and railroad cars** – Precautions should be taken to prevent trailers from pulling away from the loading dock. Additional safety measures should include wheel chocks, automatic locking trailer systems and dock plates.

WORKPLACE RELATED TOPICS

Specific worksite conditions and controls should be addressed. Some areas of concern are:

- Physical conditions
- Pedestrian traffic
- Ramps and grades
- Loading docks
- Narrow aisles
- Elevators
- Enclosed and hazardous areas

A successful program should only permit trained and competent individuals to be permitted to operate a power industrial truck. A training program should be developed and implemented based on the general principles of safe truck operation. Formal (lecture, video etc.), practical (demonstration and practice exercises) training and evaluation should be provided.

For further information or assistance, contact your Zenith Safety and Health Consultant.

Zenith provides workplace safety resources at: **TheZenith.com**® RM160CAR 3 (V1.1—10/10)

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