

University Of Pittsburgh

SAFETY REQUIREMENTS

Powered Industrial Truck Program- 9/2002

General Rules Forklifts

The purpose of these rules is to promote safe operation and to reduce the risk of injury at all University facilities regarding the use and operation of forklifts and other powered industrial trucks. The University General Health and Safety Manual, Section XII, contains additional information.

Only employees who have been trained are permitted to operate forklifts and other powered industrial trucks. Each campus is required to establish a system documenting that the requisite training has been provided to vehicle operators.

Forklifts and motorized walk behind hand trucks are considered to be powered industrial trucks and are subject to specific regulatory requirements with regard to operation and design specifications. The following rules apply specifically to the operation of forklifts. Where appropriate, these rules apply to motorized walk behind hand trucks. Operators are to be aware that most accidents involving powered industrial trucks are associated with the following:

- *Striking pedestrians or objects*
- *Upsets due to excessive speed*
- *Improper loading or overloading the vehicle*
- *Mechanical failures, i.e., brakes*
- *Lack of skill and/or training*

Traffic Regulations and Control

- Signs shall be posted in areas where hazardous conditions may develop, and when necessary, a positive traffic control measure to restrict vehicles from entering the hazardous area is to be instituted.
- Operators shall maintain control of the equipment at all times. Operating speeds and safe distances shall be based upon the condition of roadways, clearances, visibility, weather, traffic, load, and type of equipment used.
- Operators must observe all traffic regulations, posted speed limits and warning signs and must comply with all University rules.
- If driving on public highways, operators must comply with all local traffic laws and ordinances. Before proceeding onto roadways or pedestrian areas, either within or outside of a University facility, the operator shall look in all directions of travel to make certain the way is clear and shall

sound the horn if bystanders are within the area. The operator shall always yield the right of way to pedestrians and be especially aware of student movement.

- Operators must use hand or directional signals to communicate an intended turn. All turns shall be made as safely as possible with consideration given to the load, the environment, and traffic conditions.
- The operator shall report any damage to the vehicle or other property and any near miss incidents to their foreman or supervisor. If the incident involves an injury, an Employers Report Of Occupational Injury must be completed and forwarded to the Workers Compensation Office.

Operation and Travel

- Only trained persons are permitted to operate forklifts or walk behind hand trucks and the operator must be familiar with the specific operational characteristics of the vehicle as specified in the manufacturer's operating manual. Operating manuals are to be maintained in locations readily available to vehicle operators.
- Before operating a forklift or walk behind hand truck, the operator must be aware of the vehicle's lifting capacity. The manufacturer's capacity, operating and maintenance instruction plates, tags or decals are to be maintained in a legible condition as a reference for the operator.
- In cabs, no more passengers than can be properly seated are permitted, except when training is being conducted. The operator and authorized passengers shall keep arms or legs inside the vehicle's cab or zone of operation. Mounting or dismounting a vehicle in motion is prohibited.
- An operator shall face the controls for normal operations of the equipment and for other movements, look in the direction of travel. When moving loads between workplaces, forks shall be lowered to no more than 8" above grade.
- Forklifts shall not be used beyond rated capacity and shall not to be modified in any way that affects capacity, stability or structural.
- Vehicles and vehicle loads are not to be moved until the operator verifies that all persons are in the clear. When vision in the direction of travel is obstructed, a second individual must be utilized to direct the movement of the vehicle or load using standard hand signals. The operator shall stop all movements if the signals given by the guide are not visible or understood. The operator shall respond to a stop signal no matter who gives the signal.

- No person shall be allowed to stand or pass under load lifting devices whether loaded or unloaded.
- The driver is to operate the vehicle in a manner that safeguards pedestrians at all times and is to slow the vehicle and sound horn when approaching a pedestrian.
- The operator is to sound the horn prior to moving the vehicle and at blind intersections, entrances or exits of buildings and walkways or sidewalks.
- Under normal conditions of travel on level surfaces, the lifting device shall be tilted back and raised to a level only as far as necessary to clear the travel surface.
- Persons are not permitted to put any part of the body between the mast or outside the running lines of the vehicle while the vehicle is in operation. When a walk behind hand truck is operated with the forks first, the operator is to keep both hands on the control handle.
- The operator shall drive the vehicle so as to avoid tipping the vehicle over. Actions that can cause a vehicle to tip include: sharp quick turns, turning in excess of 5 mph, turning on ramps, turning on soft ground, running over objects, running into overhead structures, excessive forward or rearward tilt at high elevation, overloading the vehicle, and handling off center loads or loads that exceed the dimensions of the vehicle.

Safety Devices

- Seat belts or other personal restraint devices are to be worn by operators and passengers at all times, where installed.
- Horns on vehicles are to be maintained in a functional condition. Forklifts are to be equipped with an automatic back-up alarm, and where appropriate, a flasher. The operator is not to rely on the back-up alarm as a sole warning to bystanders
- Any person mounting or dismounting a vehicle shall use access steps and handholds provided, and shall insure three points of contact are maintained. Jumping from a vehicle is prohibited when dismounting or in the event of vehicle tipping.
- Before a vehicle is towed, the manufacturer's maintenance manual should be reviewed as necessary to ascertain if there are any precautions or procedures relative to vehicle towing. Under no circumstances shall a vehicle be towed where effective control of the towed vehicle cannot be maintained.

- Unless appropriately escorted, a vehicle traveling on a public highway less than 20 mph, shall have a slow moving vehicle sign placed on the rear of the vehicle. Visible warning devices shall be employed after dark when a parked or disabled vehicle creates a hazard to other vehicles.

Inspections

- Vehicles shall be inspected by the operator at the beginning of each work shift or prior to placing the vehicle into service for the first time during the work shift.
- When any defect is observed, the operator shall report the defect to his/her foreman or supervisor. When a defect makes continued operation hazardous as determined by the supervisor, the condition shall be corrected or the vehicle taken out of service until the critical defect is corrected.
- The inside of vehicles shall be kept free of materials not essential for operation and shall be free of materials that could create a hazard during vehicle operation.

Starting and Parking

- Prior to starting vehicles with manual transmissions, the gear lever shall be in neutral, the clutch engaged and the brake set. Vehicles with automatic transmission shall be started in the park or neutral position.
- When an operator leaves a vehicle, the load shall be fully lowered, the controls neutralized and brakes set. If the vehicle is not in view of the operator or the operator is more than 25 feet from the vehicle, the power must be shut off.
- In the event of hydraulic oil, fuel or engine oil leak that could cause a fire or damage to the equipment, the operator shall shut off the engine and discontinue operations. Operators shall notify supervision or foreman and not attempt to make repairs unless trained and authorized.
- Forklifts shall not be parked in such a manner as to block fire lanes, aisles, doorways, and access to stairways or fire equipment.
- When parking a vehicle, the parking brake is to be set and the vehicle put in park or low gear. When parking on a grade, the wheels must be blocked or the wheels turned into the bank or curb.

Maintenance Practices

- Persons inspecting or working atop, under or on a forklift shall secure the vehicle from movement and check to insure the vehicle shift levers are in the neutral position, brakes are set, and load-engaging devices are lowered to the ground.
- Damaged or leaking LP tanks are to be immediately removed from service. When changing an LP tank, the tank valve is to be shut and the engine run until it stops. The replacement tank is to be securely fastened with the safety relief valve properly positioned in accordance with the manufacturer's specifications.

Maintenance Policy

- It is the policy of the University of Pittsburgh that all forklifts, including leased or rented vehicles, be maintained in a safe operating condition and be subjected to a routine maintenance inspection at least annually.
- It is the responsibility of the supervisors, foreman or managers to insure all vehicles are inspected and maintained according to the criteria established for the equipment. Inspections and maintenance work are to be performed by persons having the expertise to perform such work.
- Each Department is to implement a Pre-Use Inspection Program to insure that vehicle defects are corrected in a timely manner.

Loading

- Loads are not to be lowered or raised while enroute except for minor adjustments. If the load obstructs the forward view, the driver shall gain assistance for forward movement or travel with the load trailing.
- Forklifts shall be operated with the upright tilted back to steady and secure the load and, where possible, the load placed against the mast. Forks should be adjusted to fit the load and should extend at least 2/3 of the load length.
- The operator shall put the vehicle into low gear or park, set the parking brake, and shut the engine off, before stepping in front of the vehicle to make any adjustments to the load or the lifting device.
- The load shall be in the upgrade position when ascending or descending grades in excess of 10 %. The lifting device is to be downgrade when traveling unloaded on all grades. Before driving on a downgrade, the operator is to check the brakes to insure the vehicle and the load can be controlled.

- Before a forklift or walk behind hand truck drives into or onto a truck or trailer, the brakes shall be set and wheel blocks shall be in place to prevent movement of the truck or trailer while loading or unloading. The flooring must be inspected prior to being driven on.
- Properly secured, portable dock boards are to be used to bridge the loading area and the carrier being loaded or unloaded. Bent or damaged loading plates are to be repaired or discarded and are not to be used. The edge of the dock board is to have substantial contact with the loading area and the carrier to prevent rocking or sliding of the dock board.

Training Requirements

PRIMARY OBJECTIVE:

The primary objective of the forklift-training program is to train personnel regardless of duration or frequency in order to avoid personal injury and damage to equipment.

Minimum training includes:

Truck Related Topics

- Operating instructions, warnings and precautions for the types of trucks the operator will be authorized to operate
- Differences between forklift and automobile
- Truck controls and instrumentation: where they are located, what they do, and how they work
- Engine or motor operation
- Steering and maneuvering
- Visibility including restrictions due to loading
- Fork and attachment adaptation, operation and use limitations
- Vehicle capacity
- Vehicle stability
- Any vehicle inspection and maintenance that the operator will be required to perform
- Refueling
- Operating limitations

Workplace Related Topics

- Surface conditions where the vehicles will be operated
- Composition of loads to be carried and load stability
- Load manipulation, stacking and unstacking
- Pedestrian traffic in areas where the vehicles will be operated
- Narrow aisles and other restricted places where the vehicles will be operated
- Ramps and other sloped surfaces that could affect the vehicles' stability
- Closed environments and other areas where insufficient ventilation or poor ventilation or poor vehicle maintenance could cause a build-up of carbon monoxide or diesel exhaust

- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation
- The requirements of the OSHA standard regarding powered industrial trucks

INEXPERIENCED OPERATOR TRAINING:

Inexperienced operators of forklifts are to be given the basic class and practice time training. Training is to be delivered by a qualified. The instructor is to provide pertinent vehicle specific information that is unique to the type of vehicle being operated.

Practice sessions are intended to familiarize learners with the basic operational characteristics of the vehicle either on a practice course or in a location where an error by an operator is unlikely to result in injury to anyone. Practice sessions are to be supervised at all times by the instructor or a designee of the instructor.

The instructor must approve the learner for on-the-job training and must monitor the learner's progress during this training phase. The duration of on-the-job training is to be contingent upon the complexity and nature of the specific job requirements. Upon completion of the training, a person knowledgeable in vehicle evaluation techniques must assess the operator's skills. A standardized evaluation form will be utilized.

Class sessions and practice sessions will vary based on course content, class size, number of vehicle types, previous training and previous experience.

EXPERIENCED OPERATOR TRAINING:

Experienced operator training is a review of basic fundamentals of safe vehicle operation and an opportunity to review changes that may have an impact on vehicle operations. Upon completion of the training, which can be delivered in increments, each operator is to be observed by a person knowledgeable of vehicle evaluation techniques. The observation is to be documented using a standardized evaluation form.

Every employee who operates a powered industrial truck is to be evaluated every three years using a standardized evaluation format. The evaluation is to serve as a training tool. The operator is to be provided immediate feedback as to the results of the evaluation and any corrective measures deemed to be appropriate. The results of the evaluation are to be documented using the evaluation format.

Refresher training on relevant topics is to be provided whenever:

- The operator has been involved in an accident or near miss
- The operator has been observed to operate the vehicle in an unsafe manner
- The operator has received an evaluation that reveals that the operator is not operating the vehicle safely
- The operator is assigned to drive a different type of vehicle

- A condition in the workplace changes in a manner that could affect vehicle safety

University of Pittsburgh Forklift Program Audit

Campus _____	Department _____
Date of Audit	Names of Auditors
Have all operators received classroom training?	
Do all new operators receive practice time training?	
Do qualified instructors train operators?	
Do instructors approve new operators for on-the-job training?	
Are standard checklists used to evaluate operators?	
Have rules governing speed, right of way and direction of movement been established at the campus?	
Have signs and signals been posted to adequately communicate established rules?	
Are there any modifications to vehicles that affect capacity, stability or structural integrity that have not been approved by the manufacturer?	
Do vehicles stop and sound the horn before entering doorways?	
Do vehicles operate inside buildings with lights on?	
Do operators sound horn when approaching pedestrians and make eye contact before proceeding?	
Are seat belts being worn where installed?	
Are horns and other warning devices maintained in functional condition?	
Are forklifts equipped with an automatic back-up alarm, and where appropriate, a flasher?	
Are all steps, and handholds provided by the manufacturer maintained in good condition?	
Are vehicles inspected by the operator at the beginning of each work shift or prior to placing the vehicle into service for the first time during the work shift?	
Are critical defects corrected immediately or is the vehicle taken out of service until repaired ?	
Are the load engaging means fully lowered, the controls neutralized and brakes set when the operator leaves the vehicle?	
Are brakes set to prevent movement during unloading and loading operations?	
Is every vehicle inspected at least annually?	
Are vehicles secured from movement prior to persons inspecting or working atop, under or on forklift ?	
Has an auditing system been implemented to insure maintenance requirements are being followed?	

FORKLIFT OPERATOR EVALUATION FORM

Operation and Travel	Y N N.O.	COMMENT
1. Are operators of forklifts trained and familiar with the specific operational characteristics of the vehicle as specified in the manufacturer's operating manual?		
2. Are operating manuals maintained in locations readily available to vehicle operators?		
3. Are operators aware of the vehicle's lifting capacity before operating a forklift?		
4. Are the manufacturer's capacity, operating and maintenance instruction plates, tags or decals maintained in a legible condition?		
5. Do vehicle operators slow down vehicles when approaching a pedestrian?		
6. Do operators sound the horn prior to moving the vehicle and when approaching persons, blind intersections, entrances or exits of buildings and main walkways?		
Loading	Y N N.O.	COMMENT
1. Do operators travel without raising and lowering loads, except for minor adjustments?		
2. Do operators gain assistance for forward movement, travel with the load trailing or split the load, if the load obstructs the forward view?		
3. Do operators put the vehicle into low gear or park, set the parking brake and shut the engine off before stepping in front of the vehicle to make any adjustments to the load or the lifting device?		
4. Are loads in the upgrade position when ascending or descending grades in excess of 10%?		
Maintenance	Y N N.O.	COMMENT
1. Are all replacement parts affecting stability equivalent as to safety as those of the original design?		