

Powered Industrial Truck Program

University of Rochester employees utilize powered industrial trucks throughout the Medical Center and River Campus. An inventory of the powered industrial trucks on campus is maintained by Environmental Health & Safety (EH&S). Any employee who operates a department powered industrial truck must first receive operator safety training and an evaluation of their operating skills. Records of such training are maintained by EH&S and the employee's department. Training must be repeated at least every three years. Please contact EH&S at x5-3241 if your department intends to purchase or rent a new powered industrial truck, as additional training may be needed.

Definition

A powered industrial truck is defined by OSHA as any mobile power-propelled truck used to carry, push, pull, lift, stack or tier materials. Examples include fork lifts, pallet jacks, low lift jacks, etc. Earth moving and road hauling trucks, golf carts, bucket trucks, and licensed automobiles are *not* included in the definition.

Responsibilities

Environmental Health & Safety (EH&S):

- Provide initial training on the OSHA rule.
- Maintain an inventory of powered industrial trucks.
- Maintain a copy of the training sessions attendance and completion.
- Provide guidance to departments with powered industrial trucks on use of the trucks and training requirements.

Department Supervisors:

- Provide an accurate and updated inventory of powered industrial trucks to EH&S.
- Provide a list of current employees and records of completed training.
- Provide training, with the guidance of EH&S, on powered industrial trucks as required by OSHA.
- Ensure employee's use of powered industrial trucks is safe.
- Limit use to only authorized users.

Employees:

- Use and maintain powered industrial trucks safely and as required by the manufacturer, OSHA, and the University.
- Report any malfunctioning equipment to their supervisor at once.
- Report any incident or near miss to their supervisor at once.

Employee Training

Trainees may operate a powered industrial truck only:

- Under the direct supervision of authorized persons who have the knowledge, training, and experience to train operators and evaluate their competence; and
- Where such operation does not endanger the trainee or other employees

Training shall consist of a combination of formal instruction (e.g.: lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

Persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence shall conduct all operator training and evaluation. This authorized person may have formal training, or have sufficient knowledge, such as a supervisor.

Training program content

Powered industrial truck operators shall receive initial training in the following topics. Topics which the employer can demonstrate are not applicable to safe operation of the truck in the employer's workplace may be excepted with EH&S approval.

Operation topics

- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
- Differences between the truck and the 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);
- Vehicle capacity;
- Vehicle stability;
- Any vehicle inspection and maintenance that the operator will be required to perform;
- Refueling and/or charging and recharging of batteries;
- Operating limitations;
- Any other operating instructions, warning, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

Workplace-related topics:

- Surface conditions where the vehicle will be operated;

- Composition of loads to be carried and load stability;
- Pedestrian traffic in areas where the vehicle will be operated;
- Narrow aisles and other restricted places where the vehicle will be operated;
- Ramps and other sloped surfaces that could affect the vehicle's stability; and
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

Policy and Procedure related topics:

- The requirements of OSHA's Powered Industrial Truck Standard;
- Site-specific Operating rules, or University Facility/Departmental policies; and
- Standard operating procedures;

Refresher Training and Evaluation

Refresher training shall be conducted to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

Refresher training in relevant topics shall be provided to the operator when:

- The operator has been observed to operate the vehicle in an unsafe manner;
- The operator has been involved in an accident or near miss incident;
- The operator has received an evaluation that reveals that the operator is not operating the truck safely;
- The operator is assigned to drive a different type of truck; or
- A condition in the workplace changes in a manner that could affect safe operation of the truck.

An evaluation of each powered industrial truck operator's performance must be conducted at least once every three years.

Other Training

If an operator has previously received training in a required topic and if that training is appropriate to the truck and their working conditions, additional training in that topic is not required if the operator has been evaluated by physical showing of ability and found competent to operate the truck safely.

Certification

The department supervisor, in conjunction with EH&S, must certify that each operator has been trained and evaluated as required by OSHA's standard. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the name of the person(s) performing the training or evaluation. A record of the certification will be placed in the employee's personnel record and a copy sent to EH&S for auditing and incident follow-up.

Truck operations

- Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.
- Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.
- When a cart is left unattended its controls shall be neutralized, power shall be shut off, and brakes shall be set.
 - A cart is considered unattended when the operator is more than 25 feet from the cart or if is not within sight.
- A safe distance shall be maintained from the edge of ramps or platforms.
- Fire aisles, access to stairways, and fire equipment shall be kept clear.
- Safety equipment, such as seat belts, will be used at all times when the truck is in use.
- When parked on an incline, or when used for loading or unloading from docks, the tires must be chocked.

Traveling

- All traffic regulations shall be observed, including speed limits.
- A safe distance shall be maintained approximately three truck lengths from obstacles ahead (i.e., other carts, pedestrians, etc.), and the truck shall be kept under control at all times.
- The right of way shall be yielded to emergency traffic, patient beds, and pedestrians.
- Carts shall not pass slower moving carts, pedestrians, patient beds, etc.
- The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed.
- Grades shall be ascended or descended slowly.
- Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in safe manner.
- Stunt driving and horseplay shall not be permitted.
- The driver shall be required to slow down for wet and slippery floors.
- Running over loose objects on the running surface shall be avoided.
- 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.

Loading

- The cart shall only carry balanced loads.
- Only loads within the rated capacity of the truck shall be handled.
- The cart shall not be operated until everyone is on board and securely seated.

Maintenance of the truck

- If at any time a cart is in need of repair, defective, or in anyway unsafe, the cart shall be taken out of service until it has been restored to safe operating condition by authorized personnel. It must be clearly labeled “out of service”.
- Carts in need of repairs to the electrical system shall have the battery disconnected prior to such repairs.
- All parts of any cart that require replacement shall be replaced only by parts equivalent to those used in the original design.
- Carts shall be examined before placed in service, and shall not be placed in service if the examination shows any conditions adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.
- When the temperature of any part of any cart is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle shall be removed from service and not returned to service until the cause for such overheating has been eliminated.
- Carts shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks. Low flash point (below 100 deg. F.) solvents shall not be used. High flash point (at or above 100 deg. F.) solvents may be used. Precautions regarding toxicity, ventilation and fire hazard shall be consistent with the agent or solvent used.
- All battery charging and maintenance and fueling shall be done in areas that meet the requirements of fire safety and employee safety regulations. Eye washes and safety showers must be readily available. Adequate ventilation will be available before charging or fueling a truck.
- Exits and safety equipment, such as fire extinguishers, shall be kept clear and accessible from parked trucks.

Appendix A
Terms and Definitions
From OSHA Standard 1910.178 Appendix A

The following definitions help to explain the principle of stability:

Center of gravity is the point on an object at which all of the object's weight is concentrated. For symmetrical loads, the center of gravity is at the middle of the load.

Counterweight is the weight that is built into the truck's basic structure and is used to offset the load's weight and to maximize the vehicle's resistance to tipping over.

Fulcrum is the truck's axis of rotation when it tips over.

Grade is the slope of a surface, which is usually measured as the number of feet of rise or fall over a hundred foot horizontal distance (the slope is expressed as a percent).

Lateral stability is a truck's resistance to overturning sideways.

Line of action is an imaginary vertical line through an object's center of gravity.

Load center is the horizontal distance from the load's edge (or the fork's or other attachment's vertical face) to the line of action through the load's center of gravity.

Longitudinal stability is the truck's resistance to overturning forward or rearward.

Moment is the product of the object's weight times the distance from a fixed point (usually the fulcrum). In the case of a powered industrial truck, the distance is measured from the point at which the truck will tip over to the object's line of action. The distance is always measured perpendicular to the line of action.

Track is the distance between the wheels on the same axle of the truck.

Wheelbase is the distance between the centerline of the vehicle's front and rear wheels.

Appendix B
Classification of Truck by power sources

| Designation | Description |
|-------------|---|
| D | Similar to the G units except that they are diesel engine powered instead of gasoline engine powered. |
| DS | Diesel powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. |
| DY | Diesel powered units that have all the safeguards of the DS units and in addition do not have any electrical equipment including the ignition and are equipped with temperature limitation features. |
| E | Electrically powered units that have minimum acceptable safeguards against inherent fire hazards. |
| ES | Electrically powered units that, in addition to all of the requirements for the E units, are provided with additional safeguards to the electrical system to prevent emission of hazardous sparks and to limit surface temperatures. |
| EE | Electrically powered units that have, in addition to all of the requirements for the E and ES units, the electric motors and all other electrical equipment completely enclosed. |
| EX | Electrically powered units that differ from the E, ES, or EE units in that the electrical fittings and equipment are so designed, constructed and assembled that the units may be used in certain atmospheres containing flammable vapors or dusts. |
| G | Gasoline powered units having minimum acceptable safeguards against inherent fire hazards. |
| GS | Gasoline powered units that are provided with additional safeguards to the exhaust, fuel, and electrical systems. They may be used in some locations where the use of a G unit may not be considered suitable. |
| LP | Similar to the G unit except that liquefied petroleum gas is used for fuel instead of gasoline. |
| LPS | Liquefied petroleum gas powered units that are provided with additional safeguards to the exhaust, fuel, and electrical systems. |

Appendix C- Example of Daily Inspection Check sheet

INSPECTION CHECK LIST

Truck _____ Month _____ Year _____

Put a check into the column if the item was OK. If an item needs repair let your supervisor know right away and take the truck out of service until fixed.

| Day | Steering | Controls | Brakes | Wheels | Forks | Comment if not OK | Initials |
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Maintenance

| Date | Work done | Date returned to service | Initials |
|------|-----------|--------------------------|----------|
| | | | |