



Best Practices for Mobile Equipment Safety

Scope

The scope of this best practice is to provide guidelines for the safe operation of all moving vehicles in an industrial environment. Mobile Equipment includes maintenance utility vehicles (e.g., Kalamazoos/Cushmans), golf carts, pickup trucks, flatbed trucks, railcar movers (e.g. Trackmobiles) or any other engine driven vehicle with four or more wheels. Powered industrial trucks are covered by 29 CFR 1910.178 and the reader must be thoroughly familiar with this regulation. This classification includes lift trucks and tractors that move, lift or push/pull a load, such as fork trucks. The scope of this best practice does not include cranes.

Key Points

- Pre-use inspections should occur for all mobile equipment. While there is no requirement to document these inspections, best practice is to document these inspections for vehicles covered by the Powered Industrial Truck regulation. In addition, best practice is also to document these inspections for railcar movers.
- Pedestrians are at particular risk around mobile equipment operation. Every attempt must be made to segregate pedestrian travel areas from the areas where mobile equipment operates, and to ensure pedestrians make eye contact with acknowledgement if it's necessary for them to enter areas where mobile equipment is operating.
- Vehicles should be turned off and left in a safe state when unattended, even for brief periods.

General Requirements

Vehicles should be examined at least daily but always before being placed in service, and should not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. If the vehicle is used around the clock, the examination should occur at the beginning of each shift. If at any time a vehicle is found to be in need of repair, defective, or in any way unsafe, the vehicle should be taken out of service and not used until it has been restored to safe operating condition.

For Powered Industrial Trucks, best practice is to document the examination described above on a checklist approved by the Safety Department. Checklists should be retained and audited. Sample daily checklists are available at https://www.osha.gov/dte/library/pit/pit_checklist.html

Headlights should be used at night.

Cellular and two-way radio use should not occur when operating any vehicle unless such use is required by the employer. For example, two-way radio use may be authorized when operating a railcar mover to properly position railcars.



Keep pedestrians and vehicular traffic segregated. Use pedestrian barriers, walkways, or striping as practical.

When pedestrians enter traffic areas, they should make sure to get the operator's attention and permission before entering the area by making eye contact with acknowledgement.

For an area where vehicular traffic is occurring intermittently, best practice is to position temporary warning signs indicating the intermittent traffic hazard. For example, there may be intermittent fork truck traffic as it travels between a warehouse and loading dock to load or stage material.

Only qualified and authorized operators should operate mobile equipment and then only after proper training. Only authorized persons should perform maintenance work on vehicles.

Best practice is for all operators of mobile equipment must have a current and valid driver's license. All operators must pass a medical exam.

Operator restraints (seatbelts), if available in the vehicle, must be used at all times when the vehicle is in motion.

Drive at safe posted speeds at all times. If the vehicle has no speedometer, drive at walking speed. Use extra care in congested areas, when making turns or on rough or loose pavement.

Face in the direction of travel, never back up without looking to see that all is clear.

When a powered industrial truck is left unattended, load engaging means should be fully lowered, controls should be neutralized, power should be shut off, and brakes set. Wheels should be blocked if the truck is parked on an incline.

Shut off the engine and apply parking brake when filling or replacing the fuel tank.

Sound horn when passing through doorways, when passing other vehicles, pedestrians, or wherever there is a sign indicating its use.

Use a spotter if blind spots are a concern.

Avoid operating internal combustion engines in an enclosed space for long periods of time. Carbon monoxide levels may become dangerous.

Be careful when mounting and dismounting vehicles and use steps where provided on the vehicle.

A distance of 2-3 lengths must be kept between vehicles, which are following one another.



When driving through a facility, avoid running over unprotected hoses and do not drive over metal reinforced hoses which would cause them to be permanently deformed. Best practice is to avoid routing hoses in areas where vehicles travel. If this isn't possible, protect hoses from traffic with a crossover hose ramp.

If a vehicle is leaking fluid, do not move it. Take appropriate actions to stop leak and clean the spill.

In hazardous or electrically classified areas, only use equipment designated for use in these areas. For Powered Industrial Trucks, be familiar with OSHA's truck designations and hazardous location classifications. Hazardous atmospheres include the presence, or potential presence of flammable liquids and vapors, combustible dust, metal dust, and fibers.

In vehicle battery charging areas, facilities should be provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage by trucks, and for adequate ventilation for dispersal of fumes from gassing batteries. Smoking should be prohibited in the charging area. Precautions should be taken to prevent open flames, sparks, or electric arcs in these areas.

Over-use of mobile equipment in congested areas can cause unnecessary congestion and risk. This is particularly true with pickup trucks and golf carts. Consider designating parking areas at the perimeter of congested areas and encourage employees to walk instead. The obvious exception would be to transport equipment or tools to/from a job site. In this case, the vehicle should leave the congested area after loading or unloading has occurred.

Fork Trucks (These are Covered by the Powered Industrial Trucks Regulation)

Pre-shift/use inspection should be performed by the operator and documented on forms approved by the Safety Department. See additional details in the General section.

No modifications to the forks should be made, e.g. drilling a hole for a trailer hitch. Use factory approved attachments.

When traveling, keep the forks, pole or platform as low as possible, consistent with running clearances. Never travel with a load when the forks are in the raised position and be particularly aware of overhead clearances. When parking fork trucks leave forks lowered and in such a position as not to create a tripping hazard.

Be sure that the fork truck is properly and carefully loaded. See that the load is correctly stacked and balanced and is well back on the forks. Do not attempt to handle loads beyond the rated capacity of the truck, or drive on surfaces, which may not support the truck and load.



Do not allow any person to ride the forks, pallets, loads, or hitch a ride in any manner on vehicles, except where an authorized seat is provided for that purpose.

Avoid sudden starts, stops, and turns, especially when carrying a load. Apply brakes gradually when stopping. Do not use reverse to stop vehicle except in case of emergency such as failure of brakes to hold.

When stacking material on high piles, be sure that pedestrians and workers are in the clear. Storage of material should not create a hazard. Bags, containers, bundles, etc., stored in tiers should be stacked, blocked, interlocked in height so that they are stable and secured against sliding or collapse. Stored materials should not block access to any emergency exit, firefighting equipment, or electrical panels.

Observe posted floor loading limits. Inspect the condition of the floor. Look for holes or weakened flooring, loose objects or obstructions, protruding nails or boards. Do not travel over surface that cannot support the weight of the lift truck, its load and its operator. Do not enter a box car or semi-van without inspecting its floor and knowing its load limits.

Be familiar with OSHA's truck designations and hazardous location classifications. Only use powered industrial trucks that have the correct designation for the location's classification. Hazardous atmospheres include the presence, or potential presence of flammable liquids and vapors, combustible dust, metal dust, and fibers.

Railcar Movers (e.g., Trackmobiles)

Although railcar movers aren't Powered Industrial Trucks covered by the OSHA regulation, best practice is to complete daily or shift inspection checklists.

Golf Carts

Inspect prior to use.

Tailgates need to be latched properly when in motion.

When getting off the golf cart turn the starter key to the off position.

Maintenance Burden Carriers/Maintenance Utility Vehicles (e.g. Kalamazoos, Cushmans)

Inspect prior to use.

All loads should be secured before moving.

Training (Vehicles Covered by the Powered Industrial Trucks Regulation)

For fork lifts and tractors covered by the Powered Industrial Truck regulation, operators are required to undergo formal training consisting of instruction (e.g., lecture, discussion,



interactive computer learning video, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and followed by evaluation of the operator's performance in the workplace. This training must be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

Refresher training needs to be conducted when operators are found to be operating unsafely, have been in an accident or near miss, receive a poor evaluation, or when there are changes in the workplace or type of truck. OSHA does, however, require an evaluation of each powered industrial truck operator's performance at least once every three years. Best practice is to re-train all affected employees every three years in addition to the evaluation. The employer shall certify that each operator has been trained and evaluated per the criteria specified in the regulation.

Training (Vehicles not Covered by the Powered Industrial Truck Regulation)

Best practice is to conduct initial classroom training and credential verification, and to conduct refresher training every three years. Refresher training should occur more often when warranted by changes in conditions or equipment, incidents or near misses.

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