

Forklift Operation Plan

It's hard to imagine any tool more important to materials handling than the powered industrial truck (the forklift). Like many companies, EMA relies on these versatile vehicles to load, unload, and move stock and other materials.

This written Forklift Operation Program establishes guidelines to be followed whenever any of our employees/subcontractors work with powered industrial trucks at this company. The rules established are to be followed to:

- Provide a safe working environment,
- Govern operator use of powered industrial trucks, and
- Provide for proper care and maintenance of powered industrial trucks.

The procedures here establish uniform requirements designed to provide that powered industrial truck safety training, operation, and maintenance practices are communicated to and understood by the affected employees. These requirements also are designed to enable procedures to be put in place to safeguard the health and safety of all employees.

It is our intent to comply with the requirements of OSHA's 29 CFR 1926.600, 1926.602(c), and 1926.441 for construction activities. These regulations have requirements for powered industrial truck operations, including that for battery care and charging. We also comply with applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation of ASME/ANSI B56.1-1969, Safety Standard for Low Lift and High Lift Trucks. However, the powered industrial trucks we operate comply with 29 CFR 1910.176 and 1910.178.

Administrative Duties

Our Project Manager is our Forklift Operation Program Coordinator and has overall responsibility for the plan. Copies of this written program may be obtained from our written Safety and Health Manual or at our corporate offices.

Powered Industrial Trucks at Our Workplace

EMA operations may require the use of powered industrial trucks in its operations. These trucks may vary in size, capacity, rating, function, and purpose.

Training

Our Project Manager will identify all employees/subcontractors in the workplace that fall under the scope of the standard. He/She will also determine if the potential powered industrial truck operator is capable of performing the duties necessary to be a competent and safe driver. This is based upon his/her physical and mental abilities to perform job functions that are essential to the operation of the vehicle.

These capabilities include the level at which the operator must:

- See and hear within reasonably acceptable limits. This includes the ability to see at a distance and peripherally. In certain instances, it is also necessary for the driver to discern different colors, primarily red, yellow, and green;
- Endure the physical demands of the job; and
- Endure the environmental extremes of the job, such as the ability of the person to work in areas of excessive cold or heat. An operator must be able to climb onto and off of a truck, to sit in the vehicle for extended periods of time, and to turn his/her body to look in the direction of travel when driving in reverse.

Once the Project Manager determines that a potential operator is capable of performing powered industrial truck duties, initial training and evaluation must be performed by an instructor with sufficient knowledge, training, and experience to train new powered industrial truck operators.

Initial Training

During an operator's initial training, the instructor(s) combine(s) both classroom instruction and practical training. All powered industrial truck operators are trained and tested on the equipment they will be driving before they begin their job. Our practical training is completed through the use of a Performance evaluation sheet.

Each type of powered industrial truck has a different "feel" to it, and that makes operating it slightly different from operating other industrial trucks. The work areas where these trucks are being used also present particular hazards. For these reasons, it is impractical to develop a single "generic" training program that fits all of our powered industrial trucks. Accordingly, during training, EMA covers the operational hazards of our powered industrial trucks, including:

- General hazards that apply to the operation of all or most powered industrial trucks;
- Hazards associated with the particular make and model of the truck;
- Hazards of the workplace in general; and
- Hazards of the particular workplace where the vehicle is operated.

If each potential operator has received training in any of the elements of our training program, and is evaluated to be competent, they need not be retrained in those elements before initial assignment in our workplace. The training must be specific for the types of trucks that employees will be authorized to operate and for the type of workplace in which the trucks will be operated.

Training Certification

After an employee has completed the training program, the instructor will determine whether the potential driver can safely perform the job. At this point, the trainee will take a performance test or practical exercise through which the instructor(s) will decide if the training has been adequate. All powered industrial truck trainees are tested on the equipment they will be driving.

The Project Manager is responsible for keeping records indicating that each employee who has successfully completed operator training and testing. Each record includes the name of the driver, the date(s) of the training, and the name of the person who did the training and evaluation.

Training may be done in house or by competent outside sources. See the attached current copy of

the training material and the course outline.

Performance Evaluation

Each certified powered industrial truck operator is evaluated at least once every 3 years to verify that the operator has retained and uses the knowledge and skills needed to drive safely. This evaluation is done in house or by an outside competent source. If the evaluation shows that the operator is lacking the appropriate skills and knowledge, the operator is required to be retrained.

Refresher Training

Refresher training is triggered by any of the following situations:

- If the operator is involved in an accident or a near-miss incident;
- If the operator has been observed driving the vehicle in an unsafe manner;
- When the operator is assigned to a different type of truck;
- If it has been determined during an evaluation that the operator needs additional training; or
- When there are changes in the workplace that could affect safe operation of the truck. This could include a different type of paving, reconfiguration of the storage racks, new construction leading to narrower aisles, or restricted visibility.

Current Certified Truck Operators

Under no circumstances shall an employee operate a powered industrial truck until he/she has successfully completed this company's powered industrial truck training program or equivalent. Regardless of claimed previous experience, all new operators must at least undergo a performance evaluation.

Inspections

Pre-Operational Inspection Procedures

The company requires operators to perform pre-operational equipment checks on powered industrial trucks prior to the beginning of each shift in which those trucks will be utilized to facilitate the safe operating condition of the vehicle. The pre-operational check is performed by completing a daily truck inspection checklist.

No blank spaces are allowed on the form. If an item does not apply, we use the code N/A. We also require that operators fill out the comment section thoroughly and accurately if there are any operational or visual defects. That way our Maintenance Department can pinpoint and repair the problem before the truck becomes unsafe to operate.

The Project Manager is responsible for retaining all daily truck inspection checklist forms for each vehicle for 6 months. The checklist, should include at least the following information:

1. Brakes
2. Steering
3. Fluid levels
4. Horn
5. Mast Operation
6. Tires
7. Oil Pressure

8. Fire Extinguisher
9. Hydraulic Fluids (raise fork to top)
10. Hoses
11. Fork Adjustment
12. Safety Devices (Guard Rails)

Periodic Inspection Procedures

Periodic inspections are in conjunction with the particular powered industrial truck's maintenance or service schedule. Maintenance schedules are normally expressed in days of operation or running hours. Most manufacturer's operator instruction manuals contain the recommended maintenance schedule. Inspections and maintenance or repair beyond the recommended service schedules are done by authorized workshops and/or service technicians.

Operating Procedures

Powered industrial trucks can create certain hazards that only safe operation can prevent. That's why we have created sets of operating procedures. Our operating procedures follow.

Driving

Driving a powered industrial truck is fundamentally different than driving a car or other trucks. In fact, powered industrial trucks:

- Are usually steered by the rear wheels,
- Steer more easily loaded than empty,
- Are driven in reverse as often as forward,
- Are often steered with one hand, and
- Have a center of gravity toward the rear, shifting to the front as forks are raised.

Unlike cars, some powered industrial trucks have a greater chance of tipping over when suddenly turned. Because of the design of powered industrial trucks, they have a very short rear wheel swing. This means that, at high speeds, sudden turns can tip them and could result in serious injury and damage. Speed can cause the center of gravity to shift dramatically. Similarly, speeding over rough surfaces can cause tipping.

Although structurally different than cars, powered industrial trucks, like cars, can collide with property and people. Therefore it is our policy for all operators to follow these driving procedures:

- No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
- Unauthorized personnel shall not be permitted to ride on powered industrial trucks.
- When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline. A powered industrial truck is "unattended" when the operator is 25 ft. or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.
- All traffic regulations shall be observed, including authorized plant speed limits.
- The driver shall be required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

- Railroad tracks shall be crossed diagonally whenever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.
- When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.
- Dock boards or bridge plates shall be properly secured before they are driven over. Dock boards or bridge plates shall be driven over carefully and slowly and their rated capacity never exceeded.

Load Lifting and Carrying

Powered industrial trucks can lift only so much. Each truck has its own load capacity, which is indicated on the rating plate. Powered industrial trucks also have three-point suspension that forms an imaginary triangle from the left front wheel to the right front wheel to the point between the two back wheels. The center of gravity for a powered industrial truck must lie somewhere within this triangle or else the truck will tip over. The load and its position on the forks, as well as traveling speed and slopes, all affect the center of gravity. Loads, themselves, have gravity with which to contend. Loads need special care so that they do not fall. In order to prevent tipping and load falling hazards, we have established the following load lifting and carrying procedures:

PICKING UP LOADS

1. Never exceed the rated capacity.
2. Forks must be properly spaced.
3. Be sure the load is stacked properly and balanced.
4. Check fork height.
5. Slowly, drive into load as far as possible.
6. Tilt load back slightly and then lift the load.
7. Watch for overhead objects and pipes before moving back.
8. Lower load to within four to six inches of the floor.
9. Do not leave the load in a high position to check for a problem.
10. Do not allow anyone to walk under a raised load.
11. Always park with the forks on the ground. Take the keys with you.

TRAVELING WITH LOADS:

1. Look in the direction of travel.
2. Watch for pedestrians; they have the right of way.
3. Forks should be 4 to 6 inches above the floor.
4. Mast and load should be tilted back slightly.
5. Drive at a safe speed; no faster than a brisk walk or about 5 miles per hour.
6. When approaching corners and aisles, slow down and sound horn.
7. Do not lift or lower load while traveling.
8. Go down an incline in reverse and up an incline forward.
9. Slow down when going around curves or corners. Going too fast can cause a shift or the center of gravity of the forklift and result in overturn.
10. Watch for overhead obstacles such as lights, doorways, and pipes.
11. NO RIDERS ALLOWED on your forklift.
12. Start and stop gradually.
13. Be sure truck/trailer wheels are chocked to prevent movement and bridge plates are secured in rail car or truck/trailer.
14. Keep a safe following distance between forklifts (three lengths).

15. Keep hands and legs inside compartment while traveling.
16. Drive in reverse if your forward vision is obstructed.
17. Be aware of rear end swing.

STACKING OR DROPPING LOADS

1. Do not allow anyone to stand under a load that is raised.
2. Move slowly when load is raised.
3. Be sure the surface is level where you are stacking the load.
4. Do not tilt the load forward until you are over the stack.
5. Be sure the forks are clear of the pallet before turning or pulling away from the stack.
6. Stack the loads straight and square.
7. Be sure no one is behind you before pulling out of a stack.
8. When you leave your forklift unattended, lower the load, shut off the engine, set the brake, and take the key with you.
9. Do not park in doorways, exits, or aisles.

Following these safety procedures will assist you in effectively and efficiently performing your duties in the workplace as it relates to the use of powered industrial truck. Remember, always be aware of your surroundings, follow company policies and procedures, and always request assistance from your supervisor/Project Manager if you have any questions.

Fuel Handling and Storage

Some of our powered industrial trucks operate with highly flammable and combustible fuels.

The storage and handling of liquid fuels, including gasoline and diesel fuel are done in accordance with NFPA Flammable and Combustible Liquids Code (NFPA 30-1969).

The storage and handling of liquefied petroleum gas fuel is done in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA 58-1969).

Employees who handle or use flammable liquids are instructed in their safe handling and use, and made aware of the specific OSHA requirements for what they are doing with the liquids. More specifically, employees are instructed in the following procedures:

REFUELING

Follow these precautions when refueling the unit;

With propane:

1. No smoking or open flames.
2. Shut off the gas valve while the engine is running so that all fuel in the line will be used up.
3. Shut off the engine.
4. Make sure valves are seated properly and there are no leaks. Smell is the best sense for detecting leaks. Remember that propane is heavier than air and will hug the floor.
5. Propane can cause a freeze burn if it comes in contact with skin.
6. Handle tanks carefully (do not drop).
7. When possible, refuel outside.
8. Do not store tanks near a heat source or where leaking gas can accumulate.
9. Check couplings and fittings for wear.

10. Wear personal protective equipment (long sleeves, gloves, and eye protection) while refueling.

With gasoline or diesel:

1. No smoking or open flames.
2. Shut off the unit.
3. Use caution to avoid overfilling the tank.
4. Clean up any spills before starting the unit.
5. Replace the fuel cap.
6. Wear PPE.

Battery Charging and Changing

Batteries present a hazard because they contain corrosive chemical solutions, either acid or alkali. During recharging, a worker may be exposed not only to the acid solution, but to hydrogen gas that is produced during the recharging process. Because of the hazards involved in battery charging and changing, only personnel who have been trained in the appropriate procedures, understand the dangers involved, and know the appropriate precautions to take may be allowed to perform this work.

Smoking is prohibited in charging areas. Battery charging generates hydrogen gas which may present an explosion hazard. This precaution also applies to open flames, sparks, or electric arcs. An effective means of fire protection must be provided in the area.

More specifically, employees are instructed in the following procedures:

REFUELING

With batteries:

1. No smoking or open flames.
2. Do not allow anyone to stand under a battery while it is being lifted.
3. Be sure battery is secure before lifting it.
4. Know the location of the nearest emergency shower or eye wash.
5. Be sure ventilation is provided at the charging station.
6. Always add battery acid to water; do not add water to acid (AAA always add acid)
7. Be sure brake is applied before charging.
8. Be sure vent caps are not plugged.
9. Uncover battery compartment when charging, so that heat will not build up.
10. Wear PPE.

Carbon Monoxide Awareness

Powered industrial trucks with internal combustion engines produce carbon monoxide (CO), an odorless, colorless, and deadly gas produced by the incomplete burning of any material that contains carbon. These materials include gasoline, natural gas, propane, coal, and wood. The most common source of CO is the internal combustion engine. Trucks, cars, forklifts, floor polishers, pressure washers, or any other machine powered by fossil fuels generates CO.

If inhaled, CO restricts the ability of your blood system to carry oxygen to the body tissues that need it. Overexposure combined with less oxygen results in carbon monoxide poisoning. Mild

poisoning can result in headaches, tightness in the chest, dizziness, drowsiness, inattention, fatigue, flushed face, or nausea. If you continue exposure lack of coordination, confusion, weakness, or loss of consciousness may result. A heart condition, smoking, taking drugs or alcohol, and pregnancy can aggravate CO poisoning. Physical activity, too, can make a situation worse. That's because your body needs more oxygen to exert itself. Severe poisoning can kill you within minutes, sometimes without warning symptoms. The more CO there is in the air and the longer the exposure, the greater the danger. Care must be exercised when using gasoline or LPG trucks in confined spaces, or areas with limited ventilation.

Personal Protective Equipment (PPE)

We have assessed our workplace and determined that the hazards present themselves associated with the fueling, inspection, and operation of powered industrial trucks

For this reason, all operators required to wear this equipment are trained:

- When PPE is necessary;
- What PPE is necessary;
- How to properly put on, take off, adjust, and wear PPE;
- Limitations of the PPE; and
- Proper care, maintenance, useful life, and disposal of PPE.

See the Written Personal Protective Equipment Program for more details.

Pedestrians

Because powered industrial trucks are typically used near pedestrians, we require both pedestrians and powered industrial truck operators to watch out for each other. Pedestrians shall have the right of way.

Maintenance

Investing time and effort into the proper upkeep of our equipment results in day-to-day reliability. Keeping up with the manufacturer's recommended maintenance and lubrication schedules, and completing the proper records, will also increase our trucks' longevity and enhance its resale value.

Operators must follow the manufacturer's operator instruction manual for daily or weekly maintenance utilizing the manufacturer's operator instruction manual(s).

Periodic maintenance (usually completed monthly, every 6 months, or annually) is done by a factory-trained expert or through an authorized dealers maintenance division

Appendices

Appendix A-Performance Evaluation Sheet

**Performance Evaluation for
Powered Industrial Trucks**

Employee Name: _____ **Date:** _____

Equipment Name: _____

For the above named piece of equipment, the authorized employee, under direct supervision of a designated person, shall correctly and safely demonstrate the following skills. Upon demonstration of the skill(s), the designated person shall sign adjacent to the task verifying the employee's ability to perform the skill(s) in a safe and correct manner.

SKILL DESCRIPTION	DESIGNATED PERSON / DATE
1. Performed inspection properly	
2. Shows familiarity with controls	
3. Slowed down at intersections	
4. Sounded horn at intersections	
5. Always looked in direction of travel	
6. Turned corners correctly(aware of rear end swing)	
7. Yielded to pedestrian traffic	
8. Approached load properly	
9. Lifted load correctly	
10. Drove under control with proper speed	
11. Traveled with load at proper height	
12. Lowered load smoothly and slowly	
13. Stopped smoothly and completely	
14. Load was balanced properly	
15. Forks all the way into the pallet	
16. Stacked loads evenly and neatly	
17. Checked trailer chocks and bridge plates	
18. Drove in reverse when required	
19. Parked forklift properly	
20. Followed proper refueling procedure	

Evaluation completed / Employee authorized operator	
Annual Performance Evaluation / Remedial Training	
Annual Performance Evaluation / Remedial Training	
Annual Performance Evaluation / Remedial Training	