

Mueller Environmental Designs **Forklift Safety Program**



Mueller Environmental Designs
31150 FM 529 | Brookshire TX | 77423
www.muellerenvironmental.com
Proven Under Pressure®

Forklift Safety Program

Accountability – QA/QC, Compliance Manager, Shop Manager, Facilities Manager

PURPOSE:

- To promote the safe operation and use of company forklifts.
- To certify each driver and maintain up to date records and manual.

INTRODUCTION:

Forklifts and powered industrial trucks are an important part of our business. We are committed to a program that provides total safety for employees and ensures that our powered industrial trucks meet the requirements for safety and reliability. Every employee must be trained and evaluated prior to being allowed to drive these vehicles.

This program has total management support and will never be compromised for expediency or monetary concerns. If you have any questions, comments, or critiques of this program, please direct them to your nearest supervisor.

PROGRAM RESPONSIBILITIES:

Management

Management has the following responsibilities:

- To provide powered industrial trucks and related equipment that is OSHA and ANSI compliant.
- To identify employees who are affected by this policy and ensure that they receive the required training.
- To provide required personal protective equipment to affected employees.
- To ensure the company is operating in accordance with this policy by performing periodic reviews and audits.
- To review this safety policy for effectiveness periodically and when program deficiencies are discovered.

Program Administrator

Powered Industrial Truck Administrator	Compliance Manager & Shop Manager
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The Powered Industrial Trucks program administrator will be responsible for the company's implementation, oversight, inspection, and training program. The program administrator will have the following duties:

- Assist the company in acquiring proper ANSI approved vehicles.
- Ensure that the vehicles are being operated in accordance with 29 CFR 1910.178.
- Coordinate periodic inspections.
- Coordinate training and evaluation of employees.
- Coordinate an annual evaluation of the powered industrial trucks program.

Supervisors

Supervisors have the following responsibilities:

- To ensure that no employees perform work on or near powered industrial trucks without receiving the required safety training.
- To provide communication between employees and management on safety issues.
- To make sure that employees have available and use all required personal protective equipment.
- To ensure that employees operate vehicles safely in accordance with powered industrial truck safe work practices.

Employees

Employees have the following responsibilities:

- To complete all required safety training prior to operating powered industrial trucks.
- To operate in accordance with the requirements of this program.
- To wear all required personal protective equipment.
- To immediately report any safety issues to a supervisor.
- To adhere to all powered industrial truck safe work practices.

Forklift Areas

Areas with forklifts in use will be clearly marked with forklift warning signs. Where visibility is limited, mirrors and other devices will be installed to assist drivers in making safe turns. Areas with frequent forklifts in use will be marked with warning signs.

Vehicle Requirements

- **Authorized Vehicles** - All new powered industrial trucks acquired and used by the company must meet the design and construction requirements for powered industrial trucks, as required by OSHA and ANSI.
- **Labeling** - Powered industrial trucks must be labeled as being accepted by a nationally recognized testing laboratory and compliant with ANSI standards. All labels, nameplates, and markings must be maintained in a legible condition.
- **Vehicle Modifications** - The company will obtain written approval from the manufacturer prior to making any modifications or additions that affect capacity or safe operation of the vehicle. Capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.
- **Vehicle Attachments** - If the truck is equipped with front end attachments other than factory installed attachments, the truck will be marked to identify the attachments and show the approximate weight of the truck attachment combination at maximum elevation with the load latterly centered.
- **Vehicle Selection** - OSHA recognizes 11 different types of powered industrial trucks. The company, with the assistance of the program administrator, will select the appropriate vehicle and its fuel type that matches the requirements of the work environment.

Atmosphere Requirements

Powered industrial trucks may only be operated in locations where the atmosphere is suitable and safe.

If the atmosphere in which a powered industrial truck will be working is suspected to have any higher-than-normal concentrations of gases, vapors, dust particles, or any other contaminants, steps will be taken to make sure that the proper vehicle is being operated for that hazard environment. The company will comply with the requirements for vehicle operation in hazardous atmospheres as listed by OSHA regulation 29 CFR 1910.178(c).

The following locations have been identified as having abnormal atmospheres and require the following vehicle types and precautions:

Location	Atmospheric Hazard	Vehicle Type and Precautions
N/A	N/A	N/A

Fuel Handling and Storage

The storage and handling of liquid fuels such as gasoline and diesel fuel shall be in accordance with NFPA Flammable and Combustible Liquids Code. (NFPA 30-1969) The storage and handling of liquefied petroleum gas fuel shall be in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases. (NFPA 58-1969)

Battery Charging and Maintenance

Battery charging shall be performed in areas that are designated for the purpose. This area will be provided with facilities for flushing and neutralizing spilled electrolyte, fire protection, protecting charging apparatus from damage by trucks, and adequate ventilation from dispersal of fumes from gassing batteries.

The following locations are designated battery charging areas:

Battery Charging Locations
For maintenance only
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The following safety precautions are required for working with batteries:

- Trucks shall have the battery disconnected prior to any maintenance on electrical systems.
- A conveyor, overhead hoist, or equivalent material handling equipment shall be provided for handling batteries.
- Reinstalled batteries shall be properly positioned and secured in the truck.
- A carboy filter or siphon shall be provided for handling electrolyte.
- When charging batteries, acid shall be poured into water; water shall never be poured into acid.
- Trucks must be properly positioned and braked before attempting to charge or change batteries.
- Vent caps must be functioning, and compartment covers shall be open to dissipate heat.
- Tools and other metallic objects shall be kept away from the top of uncovered batteries.
- Precautions shall be taken to prevent open flames, sparks, or electric arcs in battery charging areas.
- Smoking is prohibited in battery charging areas.

Lighting

When lighting is less than 2 lumen per square foot, auxiliary directional lighting will be provided on the truck. Forklift operators may not operate where lighting from the area or the vehicle is not sufficient.

Exhaust

Concentrations of carbon monoxide gas created by powered industrial trucks will not exceed 55 mg/m³. The company will take steps to ensure that proper ventilation is available in areas with emissions emitting vehicles. If high concentrations of carbon monoxide are suspected, the company will conduct testing to ensure compliance and safety.

Trucks

When loading, or unloading highway trucks, the brakes shall be set to prevent the trucks from rolling.

Vehicle Operations

Safety Requirements

The following are common safety requirements that will be adhered to for all types of powered industrial trucks.

- Trucks shall not be driven up to anyone standing in front of a bench or another fixed object.
- No person will be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.

- Unauthorized personnel are not permitted to ride on powered industrial trucks.
- Arms and legs may not be placed between the uprights of the mast or outside the running lines of the truck.
- When a truck is left unattended, loading engaging means shall be fully lowered, and controls shall be neutralized, power shall be shut off, and brakes will be set.
- Trucks that are parked on an incline will have their wheels blocked.
- A safe distance shall be maintained from the edge of ramps and platforms while on an elevated dock, platform or freight car.
- Trucks shall not be used for opening and closing freight doors.
- There must be sufficient headroom under overhead installations, lights, pipes, and sprinkler systems.
- An overhead guard shall be used as protection against falling objects.
- A loaded backrest extension shall be used whenever necessary to minimize the possibility of the load or part of the load from falling rearward.
- Fire aisles, access to stairways, and fire equipment shall be kept clear.
- Only approved industrial trucks will be used in hazardous locations.

Required Inspections Prior to Use

Maintenance will perform inspections in accordance with the operator's manual. These safety checks or PM will be performed prior to the use of the vehicle each week.

- Overhead Guard
 - Are there broken welds, missing bolts, or damaged areas?
- Hydraulic Cylinders
 - Is there leakage or damage on the lift, tilt, and attachment functions of the cylinders?
- Mast Assembly
 - Are there broken welds, cracked or bent areas, and worn or missing stops?
- Lift Chains and rollers
 - Is there wear or damage or kinks, signs of rust, or any sign that lubrication is required?
 - Is there squeaking?
- Forks
 - Are they cracked or bent, worn, or mismatched?
 - Is there excessive oil or water on the forks?
- Tires
 - Are there large cuts that go around the circumference of the tire?
 - Are there large pieces of rubber missing or separated from the rim?
 - Are there missing lugs?
 - Is there sufficient air pressure?
 - Is there bond separation that may cause slippage?
- Battery Check
 - Are the cell caps and terminal covers in place?
 - Are the cables missing insulation?
- Hydraulic Fluid
 - Check level?
- Gauges
 - Are they all properly working?

- Steering
 - Is there excessive free play?
 - If power steering, is the pump working?
- Brakes
 - If pedal goes all the way to the floor when you apply the service brake that is the first indicator that the brakes are bad. Brakes should work in reverse, also.
 - Does the parking brake work? The truck should not be capable of movement when the parking brake is engaged.
- Lights
 - If equipped with lights, are they working properly?
- Horn
 - Does the horn work?
- Safety seat
 - If the truck is equipped with a safety seat is it working?
- Load Handling Attachments
 - Is there hesitation when hoisting or lowering the forks, when using the forward or backward tilt, or the lateral travel on the side shift?
 - Is there excessive oil on the cylinders?
- Propane Tank
 - Is the tank guard bracket properly positioned and locked down?
- Propane Hose
 - Is it damaged? It should not be frayed, pinched, kinked, or bound in any way.
 - Is the connector threaded squarely and tightly?
- Propane Odor
 - If you detect the presence of propane gas odor, turn off the tank valve and report the problem.
- Engine Oil
 - Check levels.
- Engine Coolant
 - Visually check the level.

Note: Never remove the radiator cap to check the coolant level when the engine is running or while the engine is hot. Stand to the side and turn your face away. Always use a glove or rag to protect your hand.

- Transmission Fluid
 - Check levels?
- Windshield Wipers
 - Do they work properly?
- Seat Belts
 - Do they work?
- Control Lever
 - Does the lever operate properly? Safety Interlock - (found on order pickers) If the gate is open, does the vehicle run? The load shall be tilted back and raised only as far as necessary to clear the road surface.

Traveling in Powered Industrial Trucks

The following are safety requirements for traveling in powered industrial trucks:

- The load shall be tilted back and raised only as far as necessary to clear the road surface

- The truck will be operated at a speed that will permit it to be brought to stop in a safe manner
- Horseplay and reckless driving are not tolerated, and it will result in the immediate dismissal of the employee
- The driver will slow down on wet and slippery surfaces
- Dock boards or bridge plates will be properly secured before they are driven over.
- The driver will avoid running over loose objects on the roadway
- While turning, speed will be reduced to a safe level, and will occur at a moderate and even rate

Loading

The following are safety precautions for the loading of powered industrial trucks:

- Only stable or safely arranged loads shall be handled
- Only loads within the rated capacity of the trucks shall be handled
- Trucks that are equipped with attachments will be operated as partially loaded trucks when not handling a load
- A loading engaging means shall be placed under the load as far as possible, and the mast shall be carefully tilted backwards to stabilize the load. Operating instructions, warnings, and precautions for the types of trucks, the operator will be authorized to operate.

Maintenance

The company will follow the maintenance program detailed in the powered industrial trucks operations and maintenance manual. A record will be kept of all maintenance activities for each vehicle. The maintenance log will be stored at:

V/Drive / Maintenance Program

Training

Only employees that have been trained and evaluated by a competent person will be allowed to drive powered industrial trucks. Operators must be at least 18 years old. The program administrator will coordinate with management to identify authorized trainers who have the knowledge, training, and experience to teach and evaluate industrial truck operators. All trainees will operate vehicles only under the direct supervision of their instructor.

The following employees are authorized trainers for powered industrial trucks:

<u>Authorized Trainers</u>
Compliance Manager
Shop Manager

Training Content

The powered industrial truck training program will consist of a combination of formal instruction, practical training, and evaluation of the operator's performance in the workplace. The training content will include:

- Operating instructions, warnings, and precautions for the types of trucks, the operator will be authorized to operate
- Differences between the truck and the automobile
- Truck controls and instrumentation
- Engine and motor operation
- Steering and maneuvering

- Visibility
- Operation and limitation of fork and attachments
- Vehicle capacity and stability
- Inspection and maintenance requirements
- Refueling and recharging
- Operating limitations
- Surface conditions where the vehicle will be operated
- Compositions of loads and load stability
- Load manipulation, stacking, and un-stacking
- Pedestrian traffic in areas where the vehicle will be operated
- Restricted places where the vehicle will be operated
- Hazardous locations where the vehicle will be operated
- Ramps and other sloped surfaces that could affect the vehicle's stability
- Closed environments where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
- Requirements of 29 CFR 1910.178

Employee Evaluation

Once an employee has completed the training program, he or she will be evaluated for adequate understanding and skill. The evaluation will include:

- A demonstration of proper inspection procedures
- A demonstration of understanding of the hazards of the workplace
- Demonstrations of the ability to drive the vehicle, pick up the load, place the load down
- A demonstration of understanding of the requirements of this program

Refresher Training

Each powered industrial truck operator must have their performance evaluated at least once every three years. Refresher training will be assigned when any of the following occurs:

- The operator has been observed to operate the vehicle in an unsafe manner
- The operator has been involved in an accident or a near miss
- The operator is assigned to drive a different type of vehicle
- The operator has received an evaluation that reveals deficiencies
- A condition in the workplace has changed in a manner that could affect safe operation

Training Documentation

The company will retain documentation of successfully completed training for every employee. This documentation will include:

- Training subjects
- Name a trainer
- Signature of trainer
- Name of the employee
- Signature of employee
- Date of training and of evaluation

Program Evaluation

The powered industrial trucks program will be reviewed on a yearly basis. The company will evaluate the effectiveness of the program, and correct any deficiencies discovered. Employees will have an opportunity to review and comment on this program.



Knowledge Check – Forklift Awareness and Operation

1. What is the primary purpose of a forklift?

- a) To transport people around a warehouse.
- b) To lift, lower, and transport materials over short distances.
- c) To clean warehouse floors.
- d) To operate as a personal vehicle within a facility.

2. What is the MOST important factor to consider when determining the load capacity of a forklift?

- a) The color of the forklift.
- b) The operator's experience level.
- c) The load center and the maximum weight specified on the data plate.
- d) The speed at which the forklift is traveling.

3. Before operating a forklift each day, what is a critical step the operator MUST take?

- a) Check the weather forecast.
- b) Perform a pre-shift inspection of the forklift.
- c) Ensure all paperwork from the previous shift is filed.
- d) Charge their personal cell phone.

4. When traveling with a load, how should the forks generally be positioned?

- a) Raised as high as they can go for maximum visibility.
- b) Tilted all the way back.
- c) As low as possible, typically 4-8 inches off the ground.
- d) Extended as far forward as possible.

5. What is a "near miss" in the context of forklift operation?

- a) A minor scratch on the forklift.
- b) An incident where no injury or damage occurred, but had the potential to.
- c) When the forklift almost runs out of fuel.
- d) A successful maneuver in a tight space.





6. When operating a forklift on an incline, how should the load be oriented when going uphill?

- a) The load should be tilted forward.
- b) The load should be trailing (behind the forklift).
- c) The load should be leading (in front of the forklift).
- d) The orientation of the load doesn't matter on an incline.

7. What is the recommended safe following distance between forklifts traveling in the same direction?

- a) One forklift length.
- b) Two forklift lengths.
- c) Three forklift lengths or more, depending on speed and conditions.
- d) There is no need to maintain a specific following distance.

8. What should an operator do if they notice a defect or malfunction during the operation of a forklift?

- a) Ignore it and continue working if the issue seems minor.
- b) Attempt to repair it themselves immediately.
- c) Stop operating the forklift, report the issue to the appropriate personnel, and tag the forklift out of service if necessary.
- d) Ask another operator if they have experienced the same problem.

9. Pedestrians in the vicinity of forklift operations should:

- a) Assume the forklift operator sees them.
- b) Make eye contact with the operator and maintain a safe distance.
- c) Walk quickly and predictably in front of the forklift.
- d) Wear brightly colored clothing to ensure visibility (but still be cautious).

10. What could happen if a forklift is operated with an overloaded or unstable load?

- a) The forklift will automatically shut down.
- b) The operator will receive a warning light on the dashboard.
- c) The forklift could tip over, causing injury or damage.
- d) The load will simply fall off without affecting the forklift's stability.



Forklift Operator Practical Evaluation

Operator's Name:	Theory Training Date:
Evaluator/Trainer:	Evaluation Date:
Equipment:	

SCORING **PASS** **FAIL** **N/A = Not Applicable**

Pre-Operational Requirements	Score	Notes
Performs pre-use inspection in accordance with company guidelines.		
Correctly completes required inspection documentation.		
Reports deficiencies in accordance with company guidelines.		
Wears required personal protection equipment (PPE).		
Post Start Up	Score	Notes
Listens for unusual noises and sounds.		
Ensures that all safety devices are functioning as required.		
Ensures all dashboard components are functioning correctly.		
Tests functionality of parking brake.		
Checks all hydraulic operations including lift, lower, tilt, and side movements.		
Inspects and tests all foot pedals including the brake, clutch, inching, and gal pedals.		
Uses 3-points of contact when accessing operator's cab.		
Pedestrians	Score	Notes
Slows down and sounds audible warning devices for pedestrians when required.		
Establishes eye contact with pedestrians.		
Does not allow pedestrians to come near while operating the equipment.		
Is aware of rear end swing and ensures that not pedestrians are in the pathway of the swing prior to initiating turns.		
Never allows pedestrian to cross beneath loads, forks, etc.		
Does not allow passengers to ride on equipment.		

Traveling	Score	Notes
Wears seat belt consistently.		
Keeps body within operator compartment always.		
Looks in direction of travel before & while moving.		
Works in accordance with all travel guidelines, warning signs, floor load limits, and overhead clearances.		
Uses truck lighting in dark areas.		
Travels with loads raised and titled back only enough to stabilize the load.		
Stops, starts, and make direction changes smoothly.		
Slows or stops are necessary at intersections and blind corners.		
Turns wide to see down travel path.		
Uses horn and other warning devices when required (To alert pedestrians, other equipment operators, and at blind spots and intersections.		
Leaves three or more lengths for stopping when following another vehicle.		
Stays well away from drop-offs and railroad tracks.		
Avoids and removes debris, avoids holes and uneven ground.		
Crosses railway tracks at the correct 45-degree angle.		
Travels in reverse when vision is too obstructed to travel forward.		

Load Handling	Score	Notes
Does not exceed equipment's rated load capacity.		
Is always aware of combined center of gravity and maintains it well within the equipment's stability triangle.		
Uses attachments per manufacturer's instructions.		
Approaches load squarely and slowly.		
Spreads forks to appropriate width to assist in load stability.		
Does not turn with forks elevated.		
Keeps mast vertical (load level) when high stacking.		
Enters & exits pallets properly (forks level & properly spaced).		
Engages at least 2/3 of load with forks.		
Does not unnecessarily raise and tilt load.		
Aligns loads sufficiently in racks or stacks.		

Ramps, Docks, and Trailers	Score	Notes
Approaches ramps and grades straight.		
Travels up and down ramps in the correct direction.		
Restrains trailer correctly.		
Secures dock/bridge plate.		
Drives appropriate speed on ramps, docks, and trailers.		
Lifting Personnel	Score	Notes
Uses a properly designed platform.		
Ensures that personnel are using the correct fall protection systems.		
Maintains communication throughout lifting and lowering.		
Remains at the controls always.		
Shutdown and Leaving the Operators Position	Score	Notes
Parks in a designated area.		
Lowers the forks all the way.		
Neutralizes all controls.		
Deenergizes equipment and turns off fuel source.		
Blocks the wheels if parking on an incline.		
Engages the parking brake.		
Uses 3 points of contact to exit the operator's cab.		
Refueling/Recharging	Score	Notes
Ensures equipment is deenergized and fuel source is off.		
Wears appropriate Personal Protective Equipment (PPE).		
Follows all workplace and equipment specific guidelines relating to refueling and recharging.		

Additional Comments and Recommendations:

The operator has successfully completed the evaluation and is qualified to operate the equipment.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
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Evaluator / Trainer Signature	
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