



# Forklift Operator Safety Program

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## **FORWARD**

**The University of Northern Iowa Forklift Operator Safety Program is a guide intended to establish and maintain uniform compliance with Occupational Safety and Health Administration, 29 CFR, General Industry, 1910.178 and endorse the safety of personnel required to operate forklifts in the course of performing their job duties.**

**The University Environmental Health and Safety Office is responsible for oversight of compliance with local, state, and federal safety and health regulations applicable to the University. The University Forklift Operator Safety Program establishes minimum policies and procedures required for the use of forklifts.**

**University departments and contractors may implement alternative forklift procedures considered equal to or more stringent than the minimum policies and procedures established by the University Forklift Operator Safety Program.**

## Definitions

*Backrest*—a vertical support above the forks that, when a load is tipped back, prevents the load from falling rearward toward the driver.

*Carriage*—the part of the mast where the forks and backrest are mounted.

*Forklift*—a powered industrial truck with a power-operated forked platform used to hoist and transport materials by means of steel forks inserted under a load.

*Mast*—a support member providing guideways that permit vertical movement of the carriage.

*Powered industrial truck*—an industrial vehicle used to carry, push, pull, lift, or stack material powered by an electric motor or an internal combustion engine, including vehicles commonly called forklift trucks, rider trucks, motorized or powered hand trucks, pallet trucks and tugs. Not included are compressed air or nonflammable compressed gas-operated industrial trucks, farm vehicles, or vehicles intended primarily for earth moving or over-the-road hauling.

*Overhead guard*—a framework fitted to a truck over the head of a riding operator to guard against falling debris.

*Rated capacity*—the maximum weight that the truck is designed to lift as determined by the manufacturer.

## **Safety Rules and Procedures**

The University of Northern Iowa has adopted rules and procedures for operators to safely operate forklifts and for personnel working or passing through areas where forklifts are present.

### **Forklift Operation**

No one under the age of 18 may operate a forklift or any other powered industrial truck. Only personnel certified by the University or its designee are authorized to operate a forklift.

All forklift operators must obey the following rules for safely operating a forklift:

- Wear a seat belt if the forklift is equipped with one.
- Yield the right of way to pedestrians and emergency vehicles.
- Never engage in stunt driving or horseplay with a forklift.
- Never drive a forklift up to a person standing in front of a bench or fixed object.
- Never stand or pass, or allow someone else to stand or pass, under the elevated forks.
- Always keep arms, hands, or legs inside the truck.
- Lift only loads that are within the rated capacity of the truck.
- Never handle unstable loads.
- Maintain a safe distance from the edge of ramps or platforms.
- Slow down and sound the horn at intersections and where the operator's vision is obstructed.
- Ride in reverse if the load obstructs forward view.
- Prohibit unauthorized personnel to ride on the trucks.
- When leaving a truck unattended, lower the forks to ground level, neutralize controls, shut power off, and set brakes.
- Place chocks on the down-slope side of tires if parked on an incline.
- Use a load backrest extension to prevent load from falling backward.

Any time the operator leaves the forklift and his or her view of the forklift is obstructed, or the operator is 25 feet or more away from the forklift, the operator will follow this sequence of precautions:

1. Lower the load to the ground with the forks parallel to the ground surface.
2. Neutralize the controls.
3. Set the brakes.
4. Chock the tires if parked on an incline.

### **Traveling**

Forklift operators will obey the following rules when the forklift is traveling:

- A clear view of the travel route will be maintained; travel with the load behind if it blocks the forward view.
- Carry loads with the forks no more than a few inches above the ground or floor.
- Ensure there is a safe distance along the path of travel from the top of the forklift mast or load and any overhead objects (e.g., lights, pipes, ventilation equipment).
- Loads will not be raised or lowered while traveling.
- Slow down on a wet or slippery floor.
- Stay at least three truck lengths behind another truck.
- Slow down, stop, and sound the horn at cross aisles and other places where line-of-sight vision is impaired.
- Slow down before making a turn; sharp turns can tip the truck.
- Do not pass at intersections or blind spots.
- Stay a safe distance from the edge of a platform or elevated ramp.
- Drive slowly and carefully over dockboards or bridgeplates; do not exceed their rated capacity.
- Go up and down grades slowly, keeping the load upgrade and raised only enough to clear the surface on grades of over 10 percent.

## **Loading and Unloading**

Forklift operators will comply with the following rules when loading or unloading materials with a forklift:

- Only handle stable and safely arranged loads; make arrangements to secure an unstable load.
- Never lift loads that exceed the rated capacity listed on the nameplate of the forklift.
- Before entering a trailer with a forklift, ensure that trailer brakes are locked, the rear wheels are chocked, and the dock plate is secure.
- Check the rated capacity of a trailer or railcar before entering it to ensure that it can support the combined weight of the forklift and load.
- Place the forks under the load as far as possible (the load will touch the forklift carriage) and tilt the mast backward enough to stabilize the load.
- Never carry anything on the overhead guard.
- Check the maximum safe height of an area before stacking or tiering a load.
- Never tilt the load forward unless depositing it onto a rack or stack.

## **Refueling Operations**

Operators and forklift maintenance personnel will comply with the following rules when refueling a forklift or changing a propane tank:

- No smoking.
- Turn off the engine.
- Have a fire extinguisher and spill cleanup materials ready.
- Avoid fuel spills—if there is a spill, clean it up immediately.
- Do not operate a forklift with a leak in the fuel system until the leak is fixed.
- Always turn off the engine when filling fuel tanks.
- Perform all fueling operations in well-ventilated areas designated for that purpose.
- Replace the fuel cap before starting the forklift.
- Never use an open flame to check the fuel level.
- Take empty propane tanks outside and open the valve to let any leftover propane escape to the open air.

## **Recharging Operations**

Forklift recharging operations may be performed only in assigned ventilated areas. Operators and forklift maintenance personnel must obey the following rules when recharging a forklift:

- No smoking.
- Turn the power switch to the “Off” position and put the brake in the “Park” position.
- Have a fire extinguisher and spill cleanup materials ready.
- Open the vent caps to dissipate heat.
- Do not place metallic objects, including tools, near the top of uncovered batteries.
- Properly position and secure the battery in the truck.
- Use the eyewash station and flush the eyes for 15 minutes whenever electrolyte or other chemicals splash in the eyes.

## **Inspection and Maintenance**

Forklifts are inspected daily before they are used, and after each shift for a forklift used for more than one consecutive shift. Forklift operators and forklift maintenance personnel will implement the following maintenance precautions:

- Keep forklifts clean and free of lint, excess oil, and grease.
- Clean forklifts with noncombustible agents.
- Have trained, authorized personnel handle repairs.
- Perform fuel or ignition system repairs that present fire hazards in assigned areas free of ignition sources.
- Disconnect batteries before repairing a truck’s electrical system.

- Report the following conditions to the supervisor and stop operating a forklift that:
  - Is not in condition to operate safely.
  - Has clogged muffler screens or parts.
  - Sends out hazardous sparks or flames from the exhaust.
  - Has any part that overheats beyond its normal operating temperature.

## **Forklift Safety Checklists**

Forklift operators will perform pre-start inspections and other safety checks of forklifts. A checklist is available for all operators and other personnel that work near forklifts. See Attachment #1.

## **Pedestrians**

Pedestrians must comply with the following rules when walking in areas where forklifts operate:

- Never ride on trucks.
- Never stand or walk under elevated forks.
- Stay within pedestrian walkways.
- Be aware and listen for truck horns, especially at intersections.
- Cross intersections carefully.

## **Forklift Operator Training**

The Environmental Health and Safety Office or its designee will provide formalized training for forklift operators. After training is successfully completed and an operator performance evaluation is made, an Industrial Truck Operator License will be issued. See attachment #2.

## **Previous Operator Training**

Operators that have received forklift operator training at a previous job, or on a different type of forklift than the type they are about to be assigned, must complete initial training on the new operating environment and/or the characteristics of the new forklift.

## **Initial Operator Training**

A prospective operator will be trained and certified before he or she is assigned to operate a forklift. A trainee will operate a forklift only under the direct supervision of a trainer

who has the knowledge, training, and experience to train operators and evaluate their competence, and where the operation will not endanger the trainee or other employees.

Training will consist of a combination of formal instruction and an evaluation of the operator's performance.

The forklift operator initial training program must cover at least the following topics:

- Characteristics of the forklift:
  - Differences from the automobile
  - Controls and instrumentation, such as location, what they do, and how they work
  - Engine or motor operation
  - Steering and maneuvering
  - Visibility
  - Fork and/or attachment adoption, operation, and limitations of their use
  - Vehicle capacity
  - Vehicle stability
  - Vehicle inspection and maintenance the operator will be required to perform
  - Refueling or charging and recharging batteries
  - Operating limitations
  - Any other operating instruction, warning, or precaution listed in the operator's manual for the type of vehicle the employee is being trained to operate
- The operating environment:
  - Floor surfaces and/or ground conditions where the vehicle will be operated
  - Load manipulation, stacking, or unstacking
  - Pedestrian traffic
  - Narrow aisle and restricted place operation
  - Operating in classified hazardous locations
  - Operating the truck on ramps and other sloped surfaces that would affect the stability of the vehicle
  - Other unique or potentially hazardous environmental conditions that exist or may exist in the workplace
  - Operating the vehicle in closed environments and other areas where insufficient ventilation and/or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust

## **Operator Performance Evaluation**



After the initial training, a performance evaluation of the operator's ability to operate a forklift will be given by a designated person who has the knowledge, training and experience to evaluate the competence of a forklift operator. The PERFORMANCE TEST FOR FORKLIFT OPERATORS form (see attachment #3) will be completed and sent to the Environmental Health and Safety office. Each forklift operator's performance will be evaluated every 3 years.

## **Refresher Training**

Refresher training will be provided 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 truck is not being operated safely.
- The operator is assigned to drive a different type of truck.
- A condition in the workplace changes in a manner that could affect safe operation of the truck.

## ***Recordkeeping***

Records of training (dates of training, attendee lists, and trainers) will be maintained at the Environmental Health and Safety office.

# Attachment #1

**CHECKLIST FOR POWERED INDUSTRIAL TRUCKS**

- 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 - What do the tires look like?
  - 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 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 on 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?

# Attachment #2

<b>License Number: XXXX</b>
<b>University of Northern Iowa Industrial Truck Operator</b>
<i>Name</i>
<b>Department</b>
<b>Date Issued (good for 3 years)</b>
<b>Signature of Operator (not valid until signed)</b>

# Attachment #3

## PERFORMANCE TEST FOR FORKLIFT OPERATORS

EMPLOYEE \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_ a.m.  
p.m.

- G 1. Shows familiarity with truck controls.
- G 2. Gave proper signals when turning
- G 3. Slowed down at intersections
- G 4. Sounded horn at intersections
- G 5. Obeyed signs.
- G 6. Kept a clear view of direction of travel.
- G 7. Turned corners correctly – was aware of rear end swing.
- G 8. Yielded to pedestrians.
- G 9. Drove under control and within proper traffic aisles.
- G 10. Approached load properly.
- G 11. Lifted load properly
- G 12. Maneuvered properly
- G 13. Traveled with load at proper height.
- G 14. Lowered load smoothly/slowly.
- G 15. Stops smoothly/completely.
- G 16. Load balanced properly.
- G 17. Forks under load all the way.
- G 18. Carried parts/stock in approved containers.
- G 19. Checked bridgeplates/ramps.
- G 20. Did place loads within marked area.
- G 21. Did stack loads evenly and neatly
- G 22. Did drive backward when required.
- G 23. Did check load weights.
- G 24. Did place forks on the floor when parked, controls neutralized, brake on set, power off.
- G 25. Followed proper instructions for maintenance – checked both at beginning and end.

\_\_\_\_\_ Total Rating                      Evaluator \_\_\_\_\_

**In addition to passing the above test, I have been given classroom training on forklift operations and I have received documents including a Summary of Appendix A to OSHA Regulation 19190.178, Checklist for Powered Industrial Trucks, and Summaries of Selected Forklift Fatalities Investigated by OSHA.**

Signature \_\_\_\_\_ Date \_\_\_\_\_