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POWERED INDUSTRIAL TRUCKS /FORKLIFT PROGRAM

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I. Introduction

Powered Industrial Trucks, commonly called forklifts, pose a serious safety hazard if not used properly. They are used to move materials. They are used to raise, lower, or remove large objects or a number of smaller objects on pallets or in boxes. It is the policy of the UNC Charlotte to train employees on the hazards, how to operate forklifts safely and to ensure such equipment is safely maintained.

II. Purpose

The purpose of this program is to comply with Occupational Safety and Health Administration (OSHA) Powered Industrial Trucks standard – 29 CFR 1910.178 compliance regulation.

III. Scope

This program applies to all employees and students operating powered industrial truck / forklifts on UNC Charlotte's campus.

IV. Definitions

- A. Powered Industrial Trucks. Any mobile power-propelled truck used to carry, push, pull, lift, stack or tier materials. Powered industrial trucks can be ridden or controlled by a walking operator.
- B. Certified Operator. Certification of powered industrial truck / forklift operators at UNC Charlotte requires completing initial and refresher training. Once the employee has successfully completed, they are considered a certified operator.
- C. Competent Trainer. An employee who has the knowledge, training, and experience to train powered industrial truck / forklift operators and evaluate their competence. A contractor or equipment vendor who has experience training powered industrial truck / forklift safety and operation and is familiar with the equipment is also permitted to be a Competent Trainer.
- D. Rated Capacity. The maximum weight that the powered industrial truck is designed to lift, as determined by the manufacturer.
- E. Fixed Jacks. Devices which hold one end of a trailer to avoid the possibility of the trailer being "up-ended" in the course of the powered industrial truck / forklift coming in and out of the trailer.

V. Program Responsibilities

A. Executive Leadership

UNC Charlotte has legal responsibility for compliance with the occupational safety and health standards.

B. Program Administrator

The Environmental Health and Safety Office (EHS) is responsible for:

1. Planning and recommending programs that adhere to all applicable federal, state, and local laws and regulations pertaining to environmental health and safety.
2. Assisting supervisors with implementing environmental health and safety programs in their areas.
3. Curtailing or stopping work that pose a clear and imminent danger to the health or safety of the University community.
4. Periodically reviewing the program and updating it as needed to ensure compliance with all applicable federal and state regulations.

C. Departmental Management

Management is responsible for:

1. Planning and developing budget requests for departmental safety programs.
2. Developing safety procedures, work practices, and safe working areas for all those under their supervision.
3. Supporting safety and health as a model to those they supervise.
4. Supplying appropriate equipment and training.
5. Enforcing environmental health and safety regulation by invoking disciplinary action or administrative sanction.

D. Employees

Every UNC Charlotte employee is responsible for conducting himself/herself in accordance with this program. All employees shall:

1. Adhere to all safety programs, procedures, and practices while performing his/her duties in a safe manner.
2. Notifying your immediate supervisor of unsafe working conditions, potential hazards, and accidents as soon as possible.

E. Contractors

Contractors and vendors are required to develop an OSHA compliance program and adhere to compliance regulations. Contractors are only allowed to operate university owned powered industrial trucks / forklifts for training or maintenance purposes.

VI. Authorized Powered Industrial Truck Operation

- ### **A. Completion of formal instruction course material and practical hands-on training prior to operating a powered industrial truck / forklift.**

- B. Performing powered industrial truck / forklift pre-use inspections.
- C. Reporting all powered industrial truck / forklift maintenance issues to their supervisor and tagging out of service if necessary.
- D. Always operating and maintaining powered industrial truck / forklift in a safe manner.
- E. Adhere to the manufacture's operating manual and all provisions in this program.

VII. General Requirements

- A. Operators shall review and follow the manufacturers' operating manual. Only use a powered industrial truck / forklift designed to safely work in observed work-area conditions.
- B. Only certified operators shall operate a powered industrial truck / forklift.
- C. Operators shall follow safe work practices when operating a powered industrial truck / forklift. The right of way shall be yielded to ambulances, fire trucks, or other vehicles in emergency situations. Other powered industrial trucks / forklifts traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed. Only operate the lift when there is sufficient lighting. If the lighting is less than two (2) lumens then auxiliary lighting must be provided on the powered industrial truck.
- D. Vehicles are operated at a safe speed. Speeds are adjusted to compensate for surface conditions, visibility, load weight, vehicle or pedestrian traffic or any other circumstances affecting safe operation. The operator shall slow down while driving on wet and slippery floors. A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform. Powered industrial trucks / forklifts shall not be used for opening or closing freight doors. Powered industrial trucks / forklifts. shall not be parked in fire aisles, access to stairways or in front of fire equipment.
- E. Accidents shall be reported immediately to the Supervisor and the EHS Office.
- F. Maintenance or repair activities are to be performed by a qualified service technician. Maintenance shall be conducted according to the manufacturers' recommendations. Powered industrial trucks / forklifts shall be kept in a clean condition, free of lint, debris, excess oil, and grease.
- G. When the powered industrial truck / forklift 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 powered industrial truck / forklift is parked on an incline. A powered industrial truck / forklift will be considered unattended when the operator is 25 feet or more away or when the vehicle is not in view. When the operator has dismounted the powered industrial truck / forklift and is within 25 feet of the powered industrial truck / forklift, the load shall be lowered, controls neutralized, and the brakes set to prevent movement.

- H. People may not be lifted with powered industrial trucks / forklifts unless a commercially manufactured work platform is used.
- I. People are not allowed to pass under raised forks. Motorized hand trucks must enter elevators or other confined areas with load end forward.
- J. Horseplay or unsafe driving is not tolerated. Riders are prohibited on powered industrial trucks / forklifts.
- K. Operators do not place any part of their body between the mast and fork back support at any time. Powered industrial trucks / forklifts shall not be driven up to anyone standing in front of a bench or other fixed object.
- L. Only attachments approved and listed by the manufacturer may be used. Powered industrial trucks / forklifts equipped with attachments must be operated as partially loaded trucks even when not handling a load.
- M. Smoking, open flames or spark producing activities are prohibited in designated refueling or battery charging areas. Tools and other metallic objects shall be kept away from the tops of uncovered batteries.
- N. Powered industrial trucks / forklifts are parked with the engine off, forks lowered, and parking brake engaged prior to refueling or battery charging. When charging batteries, acid shall be poured into water; water shall not be poured into acid. Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting the engine.
- O. Propane tank refilling and replacement is only performed outside. In addition, propane cylinders shall be stored outside in approved cages / cabinets. The storage of and handling of liquid fuels such as gasoline and diesel fuel shall take place outside. Facilities utilizing battery powered industrial trucks / forklifts need to be charged in a designated battery charging area within the facility. Where battery charging takes place, an ABC fire extinguisher shall be available within 20 feet of the charging station.
- P. Battery charging or replacement is not performed in locations that obstruct access to exits. While changing propane cylinders, wear personal protective equipment in the form of leather gloves to protect against frostbite. When filling batteries, an eyewash able to provide 15 minutes flow should be made readily available.
- Q. Only handle stable and safely arranged loads, secure unstable loads. Always place the load against the backrest to help stabilize the load. Adjust long or high (including multiple-tiered) loads that may affect capacity.
- R. Never lift or carry loads that exceed the rated capacity listed on the nameplate of the vehicle.
- S. Check the rated capacity of the trailer before entering to ensure that it can support the combined weight of the powered industrial truck / forklift and load. The flooring of tractor trailer trucks with detachable trailers shall be checked for breaks and weaknesses before they are driven onto.

- T. Never carry anything on the overhead guard. Always carry the load as low as possible, and watch out for overhead obstructions, such as but not limited to light fixtures, sprinkler heads, or building support beams, etc. The overhead guard shall be used as protection against falling objects.
- U. Never tilt the load forward unless depositing it onto a rack or stack.
- V. Unsecured items shall not be transported in the cab of the vehicle.
- W. Always wear your seat belt.
- X. Use of mobile technological devices (i.e., cell phones, In-ear headphones, tablets) is prohibited while operating a powered industrial truck / forklift. Always look in the direction of and keep a clear view of path of travel. The operator shall slow down and sound horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall travel with the load trailing.
- Y. The powered industrial truck / forklift shall be labeled or have some other identifying markings indicating approval by a nationally recognized testing laboratory. The powered industrial truck / forklift cannot be altered in any manner, unless written approval has been received by the manufacturer.
- Z. Use caution on grades, ramps, or inclines. Operators should travel straight up and down, keeping the load upslope. When loading and/or unloading trucks / trailers, ensure the trucks / trailers brakes are set and wheels blocked to prevent movement. Fixed jacks may also be necessary to support trailers that are not connected to trucks / tractors.



VIII. Vehicle Requirements




- A. Prior to purchasing or leasing a powered industrial truck / forklift, the EHS office should be consulted to ensure that the equipment is appropriate for the job task being performed, it doesn't pose an atmospheric hazard, training is coordinated and the following minimum safety equipment is present:
 - 1. Data Plate
 - 2. Overhead Guard
 - 3. Load backrest
 - 4. Seat Belt for sit down operated forklifts
 - 5. Horn
 - 6. Headlights
 - 7. Audible back-up indicator
 - 8. Strobe light to indicate engine is running
 - 9. Headlights
 - 10. Emergency brake
 - 11. Speed Control for motorized pallet jacks
- B. All powered industrial trucks / forklifts must be marked with a legible nameplate identifying its approval under ANSI B56.1 – 1969.

- C. Additional information on the nameplate should include the designation of the powered industrial truck / forklift as outlined in Table 1.

Table 1	
Designation	Description
D	Diesel engine powered
DS	Diesel engine powered with additional safeguards to the exhaust, fuel and electrical systems
DY	Diesel engine powered with the safeguards of the DS units AND do not have any electrical equipment and are equipped with temperature limitation features
E	Electrical powered
ES	Electrical powered with additional safeguards to prevent emission of hazardous sparks
EE	Electrical powered with the safeguards of ES units AND all electrical equipment is completely enclosed.
EX	Electrical powered with the safeguards of ES and EE, AND are constructed to be used in atmospheres containing flammable vapors or dusts
G	Gasoline engine powered
GS	Gasoline powered with additional safeguards to the exhaust, fuel and electrical systems
LP	Liquefied petroleum gas powered
LPS	Liquefied petroleum gas powered with additional safeguards to exhaust, fuel and electrical systems.

The powered industrial truck / forklift classification chart includes classes and usage information.

Class	Picture	Usage
<p>CLASS I</p> <p>ELECTRIC MOTOR COUNTERBALANCED RIDER TRUCK</p>		<p>These forklifts can be equipped with either pneumatic or cushion tires. The pneumatic tired models are for use in dry and outdoor environments. The cushion tires are intended for smooth floors and indoor environments.</p>
<p>CLASS II</p> <p>ELECTRIC MOTOR NARROW AISLE TRUCKS</p>		<p>These forklifts are intended for floors with narrow aisles typically found in warehouses. They are designed to minimize space occupied by the lift truck and improve efficiency and speed.</p>

<p>CLASS III</p> <p>ELECTRIC MOTOR HAND TRUCKS</p>		<p>These are hand-controlled, battery powered forklifts. The operator stands in front of the truck and controls the lift through a steering tiller.</p>
<p>CLASS IV</p> <p>INTERNAL COMBUSTION COUNTERBALANCE TRUCKS (CUSHION TIRES)</p>		<p>These forklifts are used typically inside on smooth dry floors for transporting palletized loads to and from the loading dock and the storage area.</p>
<p>CLASS V</p> <p>INTERNAL COMBUSTION COUNTERBALANCE TRUCK (PNEUMATIC TIRES)</p>		<p>These forklifts are commonly found in warehouses. These lifts can be powered by Gasoline, LPG, or Diesel Fuel.</p>
<p>CLASS VI</p> <p>ELECTRIC & INTERNAL COMBUSTION TOW TRACTORS</p>		<p>These forklifts can be used in a variety of applications such as in airports. They are designed for either outdoor or indoor environments.</p>
<p>CLASS VII</p> <p>ROUGH TERRAIN FORKLIFT TRUCKS</p>		<p>Rough terrain forklifts are fitted with large floatation tires for outdoor use on difficult surfaces. These fork trucks are typically found on construction sites to lift and transport building materials to various job site locations.</p>

IX. Inspection

- A. Powered industrial trucks / forklifts require pre-use inspections and maintenance inspections as listed below:
 - 1. Pre-use inspections of powered industrial truck / forklift must take place before each daily use to assist in preventing incidents that are caused by faulty or worn-out equipment. Powered industrial trucks / forklifts that are not in good operating condition shall be removed from service until the

proper repairs have been made by an authorized and trained maintenance technician. A pre-use inspection form (Appendix A) should be used to document the inspection.

2. Maintenance inspections of powered industrial truck / forklift must take place based on the manufacturer's recommendations. The maintenance inspections shall be performed by the manufacturer, authorized representative or qualified person. The items listed in the owners' manual shall be tested, evaluated and, if applicable, corrected by qualified personnel before the powered industrial truck / forklift is returned to service. Powered industrial trucks / forklifts shall not be operated if they are out of compliance with manufacturer specifications. Modifications or disabling of safety devices, such as warning beepers, guards or interlocks is prohibited.

X. Training

Powered Industrial truck / forklift training is required initially for all employees operating a powered industrial truck / forklift. Trainees may operate the powered industrial truck / forklift only under the direct supervision of a trainer, and where such an operation does not endanger the trainee or other employees. All training must be coordinated through the EHS Office.

A. Initial Training

Supervisors must ensure all operators are adequately trained prior to operating a powered industrial truck / forklift. Training must consist of both formal instruction and practical evaluation.

B. Formal Instruction

Includes lecture, discussion, interactive computer learning, video, and/or written training and must consist of the following elements, when applicable:

1. Specific manufacturers' operating manual instructions, warnings, limitations, and precautions specific to the type of powered industrial truck to be utilized by the operator;
2. Differences between the powered industrial truck / forklift and a vehicle;
3. Equipment controls and instrumentation including their location and proper operation;
4. Operating the motor/engine;
5. Steering and maneuverability;
6. Visibility, including limitations when loading/unloading;
7. Fork use and attachment adaptation, operation and limitations (when applicable);
8. Vehicle capacity and stability limitations;
9. Completing pre-use inspections;
10. Refueling and/or battery changing/charging; and
11. Specific workplace operation of the powered industrial truck / forklift including the following:

- a. Surface conditions where the vehicle will be operated
- b. Handling loads specific to the operation of the powered industrial truck / forklift, including load manipulation, stacking, and unstacking
- c. Operating in narrow aisles and/or around pedestrian traffic
- d. Operating on sloped surfaces
- e. Ventilation while using powered industrial trucks / forklifts
- f. Use restrictions based on hazardous locations

B. Practical hands-on evaluation

Includes demonstration performed by the trainer and practical exercises performed by the trainee to ensure competence by the operator when utilizing a powered industrial truck / forklift.

1. Practical evaluation should be conducted utilizing the powered industrial truck(s) / forklift to be used by the operator. Practical evaluation should simulate typical work to be conducted with the powered industrial truck / forklift and may consist of the following:
 - a. Performing pre-use inspections
 - b. Safe operation of the powered industrial truck / forklift
 - c. Handling a load
 - d. Maneuverability

C. Refresher training

Refresher training may be necessary due to certain circumstances as follows:

1. The operator is observed operating the powered industrial truck / forklift in an unsafe manner.
2. The operator is involved in an accident or near-miss incident.
3. The operator receives an evaluation revealing unsafe practices.
4. There is a change in workplace conditions affecting the safe operation of a powered industrial truck / forklift.
5. The operator is assigned to drive a different type of powered industrial truck / forklift.
6. Every 3 years.

Note: Powered industrial truck / forklift operators must be certified to operate the powered industrial truck / forklift. The initial and refresher training serves as documentation for this certification. The trainer shall certify that each operator has been trained and evaluated as described above. The written certification will include the operator's name, date of training, date of the evaluation, and the name of the person(s) performing the training or evaluation.

XI. Recordkeeping

- A. The EHS office will maintain training records of authorized powered industrial truck / forklift operators who have successfully completed the training requirements of this program.
- B. Each department should maintain training records, pre-use inspections and maintenance inspection records for the period of at least one year. All records shall be available for review by the EHS Office.

Appendix A – Pre-use Inspection Form

Forklift pre-use inspection forms are accessible in electronic or paper format.



OR

UNC Charlotte Environmental Health and Safety Forklift Pre-Use Inspection Form																
Department Name:	Forklift Name:	Type: Gas <input type="checkbox"/> LP <input type="checkbox"/> Battery <input type="checkbox"/>	Hour Meter:	Month/Year:												
<small>Instructions: Complete the general information, visual walkaround and test control sections. Mark the corresponding day of the month with an "✓" Pass, "X" = Fail, N/A=Not Applicable. If any item is marked with an (X) you must tag the forklift out of service (sign on steering wheel) and report it to your supervisor.</small>																
Inspection Items	Day of the Month															
✓ = Pass, X = Fail, N/A = Not Applicable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Visual Walkaround Conduct a thorough walk around the forklift and work location before mounting the forklift or starting the engine. Look for loose bolts, debris buildup, oil or coolant leaks. Check the condition of lights, tires, mast, carriage, forks or attachments for damage. Check the fuel system (battery, gas, LP) for levels, secure and damage. Check the name/date plate and owners' manual.																
Test Controls Test key, seat adjustments, seat belt, horn, parking brake and direction control lever. Test the operational controls (brakes, steering, directions signals, mast, and attachments).																
OPERATOR INITIALS																
COMMENTS:																

SCAN HERE

LOCATED ON THE FORKLIFT