UCONN

Powered Lift Truck Program

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Powered Lift Truck Program	
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Applies To:	Faculty, staff and students that operate powered lift trucks, or evaluate their use.
Contact:	EHS, Occupational Health and Safety at 860-486-3613, ehs@uconn.edu

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Powered Lift Truck Program

I. Purpose

To ensure the safety of all operators and others affected by the use of powered lift trucks (e.g., forklifts, powered pallet jacks, and other powered industrial trucks) and to comply with the Occupational Safety and Health Administration's (OSHA) Powered Industrial Truck Standard (29 CFR 1910.178).

II. Scope and Applicability

This program applies to workforce members affected by the use of powered lift trucks at all UConn campuses, except UConn Health. The program does not apply workforce members using aerial lifts, scissor lifts, bucket trucks, etc., which are covered under the Fall Protection Program.

III. Definitions

Authorized Evaluator: An individual with the knowledge, training, and experience to train and evaluate the competence of operators regarding the proper use of departmental lift trucks and comply with the OSHA Powered Industrial Trucks Standard and additional University requirements.

Free Rigging: The direct attachment to or placement of rigging equipment (e.g., slings, shackles, rings, etc.) onto the tines of a powered industrial truck for a below-the-tines lift.

High Tiering: The placement of materials in upper tiers of storage racks.

Operator: An individual who is properly trained and authorized to use a lift truck.

Operator Trainee: An individual who has limited training and experience regarding lift truck operation.

Lift Truck: A mobile power-propelled truck used to carry, push, pull, lift, stack, or tier materials; also called powered industrial trucks or powered industrial vehicles. Lift trucks can be ridden or controlled by a walking operator. This includes forklifts and powered pallet jacks; it does not include over-the road haulage trucks and earth-moving equipment, or such equipment with fork attachments.

Lift Truck Operator Endorsement: A sticker issued by EHS that designates the user has successfully completed formal instruction, practical training, an on-the-job evaluation, and is authorized to operate a lift truck within a specific department for the University of Connecticut. These stickers are required to be applied on the back side of the operator's University ID card and be kept in the operator's possession whenever they operate a lift truck.

IV. Policy Statement

As stated in the University's Health and Safety Policy, the University of Connecticut is committed to providing a healthful and safe environment for all activities under its jurisdiction and complying with federal and state health and safety standards. Powered lift truck safety is essential to prevent accidents and injuries, as lift truck operators carry heavy loads in warehouses, power plants, and other congested areas, often within close proximity of other workers. This program provides mandatory procedures for formal instruction, practical training, on-the-job evaluation, and required documentation to ensure the safe use of lift trucks and to maintain regulatory compliance.

V. Enforcement

Violations of this program may result in appropriate disciplinary measures in accordance with University Laws and By-Laws, General Rules of Conduct for All University Employees, applicable collective bargaining agreements, and the University of Connecticut Student Conduct Code.

VI. Responsibilities

A. Managers, Supervisors, and Principal Investigators:

1. Identify operators, confirm they have a valid motor vehicle driver's license, and ensure they participate in the Lift Truck Training Program. If an employee has other duties, but sometimes operates a lift truck, they still must be trained.
2. Ensure employees who are not expected to operate lift trucks are aware that they cannot operate them without a Lift Truck Operator's Endorsement, verifying proper training and authorization.
3. Identify every type of lift truck (i.e., make, model, and size) used in the facility/work area. Each type may have different operating controls, vehicle handling, and braking abilities. Managers must ensure operators complete practical training and be evaluated on each lift truck model they operate in the workplace. Evaluations must documented on the Appendix B form.

4. Identify the lift truck attachments each operator is expected to use. Ensure practical trainings are conducted with each attachment. Evaluation forms must indicate the specific attachment(s) the employee is qualified to operate.
5. Appoint an authorized evaluator(s) to perform on-the-job evaluations of lift truck operators in accordance with the Lift Truck Training Program, continually assess the operator's performance, and comply with the OSHA requirement.
6. Ensure operators cease operations of lift trucks and successfully complete lift truck refresher training if unsafe acts or hazardous workplace conditions are identified.
7. Maintain documentation (e.g., labels, signage, operator evaluations, refresher training forms, pre-operation checklists and other documentation) required by this program.
8. Maintain lift truck equipment including appropriate labels, approvals, and inspections following manufacturer's recommendations.
9. Provide and maintain appropriate safety equipment and facilities.
10. Ensure the proper use of personal protective equipment, fire extinguishers, hoisting equipment, safety shower/eyewash stations, flammable storage facilities, lift truck safety equipment, etc., as required by this program.
11. Provide facilities for flushing and neutralizing spilled electrolyte, fire protection, protecting charging apparatus from damage, and adequate ventilation for dispersal of fumes from off-gassing batteries.

B. Authorized Evaluators

1. Ensure that lift truck operators have a valid motor vehicle driver's license prior to participation and that all operators participate in the Lift Truck Training Program.
2. Identify and review the different makes, models, sizes, and operating characteristics of each departmental lift truck to provide better practical training for each type.
3. Ensure practical training addresses both the unique handling characteristics of each lift truck and the specific attachments used on each lift truck (if applicable).
4. Evaluate employees in accordance with the Lift Truck Training Program. Evaluate employees on each lift truck model they operate with each attachment (if applicable) and document the evaluation(s) and attachments in the Appendix B form.
5. Notify the supervisor or PI (if applicable) when unsafe acts or other workplace conditions noted in the Lift Truck Training Program occur and immediately coach the employee to avoid future acts. If unsafe acts are repeated, conduct a Lift Truck Refresher Training with the employee and complete the necessary Refresher Training documentation with them.
6. Maintain documentation, including labels, signage, operator evaluations, refresher training forms, pre-operation checklist, and other documentation, as required by this program.

C. Operators and Operator Trainees

1. Operate lift trucks in compliance with this program and comply with all formal and practical training requirements.
2. Complete the Lift Truck Pre-Operational Checklist at the beginning of each shift and provide it to the supervisor for retention.
3. Notify the supervisor of any issues identified on the pre-inspection checklist.
4. Notify the supervisor if unable to comply with any training or other requirement in the Powered Lift Truck Program.
5. Follow all facility-specific safety requirements established during their practical training for each lift truck used.
6. Immediately report any accident, injury, or property damage to their supervisor while operating a powered lift truck.
7. Carry on their person their University ID with the lift truck endorsement whenever they are operating a powered lift truck as outlined in this program. This applies to operators only. Trainees will receive endorsements after completing formal and practical training requirements and evaluations by an authorized evaluator.

D. Contractors

Contractors using lift trucks on UConn campuses must do so in accordance with The University of Connecticut Contractor EHS Manual. Special attention must be paid to the sections regarding Powered Industrial Vehicles and Combustion Engines – Indoors.

E. EHS

1. Conducts formal training related to this program and maintain records of the same.
2. Provides the Lift Truck Operator Endorsement sticker to be placed on the back side of the employees' University issued ID card after successful completion of the formal instruction, practical training, and the on-the-job evaluation.
3. Provides a reminder to the employees when the 3-year evaluation is coming due.
4. Maintains the Powered Lift Truck Program; reviews and amends as necessary.

VII. Lift Truck Training Program

The Lift Truck Training Program consists of four parts:

1. Formal Instruction (Authorized Evaluators and Lift Truck Operators)
    - Operator Module (Authorized Evaluators and Lift Truck Operators)
    - Evaluator Module (Authorized Evaluators)
2. Practical Training
    - Operator Practical Training (New or transferred employees)

- Operator Refresher Training (As required)

3. On-the-Job Evaluations (Lift Truck Operators)
4. Documentation

Upon successful completion of formal instruction, practical training, and a departmental on-the-job evaluation, an operator trainee will be eligible to receive a Lift Truck Operator Endorsement issued by EHS. The operator endorsement authorizes the individual to operate a lift truck within a specific department. Only individuals carrying a valid Lift Truck Operator Endorsement or operator trainees working under the direct supervision of an authorized evaluator, may operate a lift truck.

A. Formal Instruction

Each employee who operates a lift truck and/or evaluates operators (including new and current lift truck drivers) must receive Lift Truck Operator Safety Training through EHS to establish uniformity in safety and regulatory awareness. Additionally, designated departmental evaluators must receive Lift Truck Evaluator training. Whenever a new hire, transferred employee, or new job assignment requires either lift truck training course, the supervisor must ensure that the employee is registered for and completes instruction with EHS. Training courses can be accessed or registered for through HuskySMS.

B. Operator Practical Training

During operator practical training, authorized evaluators demonstrate practical skills and information to the operator trainee and then closely supervise the trainee as the trainee practices the skills through drills or on-the-job training. The authorized evaluator assesses proficiency by how well the trainee demonstrates the skills and understands the information. Some examples of the skills, operating elements, and environments needed to assess operator trainee proficiency are listed below:

1. Operator Trainee Skills

- Vehicle inspection that the operator must perform (**Appendix A**);
- Controls and instrumentation: location, what they do, and how they work;
- Engine or motor operation;
- Battery charging and watering system, and fueling system procedures;
- Mounting and dismounting the lift truck;
- Types of loads;
- Vehicle capacity and stability;
- Use in freight elevator (elevators must be rated for the truck/load weight);
- Stack pallets on top racks or in multiple layers;
- Stack pallets on floor level;
- Unload a truck;
- Fork and/or attachment adaptation, operation, and limitations of their use.
- 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.

2. Operating Elements and Environments

    - Site-specific obstacles/encumbrances, including overhead and wall mounted ones;
    - Floor surfaces and/or ground conditions where the vehicle will be operated;
    - Composition of probable loads and load stability;
    - Load manipulation, stacking/unstacking areas;
    - Pedestrian traffic;
    - Narrow aisle and restricted place operation;
    - Operation in any classified hazardous locations at the specified site;
    - Operation on ramps and other sloped surfaces at the work site that could affect the stability of the vehicle;
    - Unique or potentially hazardous environmental conditions that exist or may exist in the workplace; and
    - Operation in closed environments and other areas where insufficient ventilation and/or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.

3. Operator trainees must be given adequate opportunities to practice their skills to become a competent operator. During practical training, the operator trainee must be under constant supervision by the authorized evaluator. Practical training sessions may be carried out at a time specifically set aside for training, or they may take place during normal routine work on the lift truck.

4. If employees are expected to operate several different lift trucks, authorized evaluators must conduct practical training on the unique handling characteristics of each vehicle. If lift trucks are fitted with attachments purchased from the manufacturer that may affect the manner in which the lift truck is handled, practical training on the use of each attachment is also required.

5. Authorized evaluators must perform and document each evaluation of the employee using the Evaluation for Lift Truck Operators form found in **Appendix B**. A copy of the completed evaluation form must be submitted to EHS in order to issue a Lift Truck Operator Endorsement for the operator trainee.

C. **Refresher Operator Practical Training**

During lift truck operation, the supervisor or authorized evaluator may observe the employee performing an unsafe act (e.g., riding with a load too high, traveling at an unsafe speed, etc.). The supervisor making the correction must point out the incorrect manner of operation of the lift truck or other unsafe act being conducted; tell or show the employee how to do the operation correctly; and direct the employee to conduct the operation correctly in the future.

If there are multiple on-the-spot corrections, the supervisor or authorized evaluator may decide to conduct more structured documented refresher training. Documented refresher training, followed by an on-the-job evaluation, can be conducted to ensure that the operator has the

knowledge and skills to safely operate the lift truck. Refresher training is required when the operator was:

- Repeatedly observed to operate the vehicle in an unsafe manner.
- Involved in an accident or near-miss incident.
- Received an evaluation that revealed that operator is not operating the truck safely.
- Assigned to drive a different type of truck.
- Conditions in the workplace change in a manner that could affect the safe operation of the truck.

The authorized evaluator may discuss topics that may include, but not be limited to:

- Unsafe situations encountered in the workplace.
- Unsafe operating methods observed or known to be used.
- The need for constant attentiveness to the vehicle in use.
- The ways that changing workplace conditions can affect lift truck operation.
- Standard operating rules for the work site.
- Other pertinent subjects related to lift truck operations.

Refresher training sessions must be documented using the form found in **Appendix C**, kept on file in the department, and a copy must be submitted to EHS. In addition, after the refresher training session has been documented, the authorized evaluator must re-evaluate the operator during work, document it on the form in **Appendix B**, maintain the form on file in the department, and submit a copy to EHS.

D. On-the-Job Evaluations

1. The department where the employee is assigned is responsible to continually evaluate the lift truck operator's performance. The supervisor and/or the authorized evaluator must also document periodic evaluations of the operator's performance using the "Evaluation for Lift Truck Operators" form in **Appendix B**. The operator trainee must be able to perform the skill sets listed on the form with confidence and accuracy, to the authorized evaluator satisfaction, to receive an acceptable evaluation.
2. If employees are expected to operate several different models of lift trucks, they must be evaluated on each different lift truck model. Any manufacturer supplied attachments used must be noted on the evaluation form.
3. Each authorized evaluator who also operates lift trucks must be evaluated periodically by another authorized evaluator in their department. If they are the sole authorized evaluator in their department, they must use the form in **Appendix B** as a self-evaluation tool.
4. On-the-job evaluations must be performed at least every three years or after any refresher training. The original evaluation form must be kept on file within the employee's

department. A copy of the completed evaluation form must be submitted to EHS to verify successful completion and to issue an updated Lift Truck Operator Endorsement.

E. **Operator Department Transfers**

In the event an operator transfers into another department where lift trucks are utilized, the authorized evaluator in the new department must show the transferred employee all site-specific obstacles and encumbrances in their new department. Additionally, the operator must be able to perform the skill sets listed in **Appendix B** to the satisfaction of the authorized evaluator within the new department to be deemed qualified to operate lift trucks, with or without attachments, in that department. This evaluation must be documented using the evaluation form found in **Appendix B**. A copy of this completed evaluation form must be submitted to EHS to verify successful completion and to issue an updated Lift Truck Operator Endorsement.

F. Training Documentation Requirements

1. To show proof of successful training, Operator Trainees must attend Lift Truck Operator Safety Training either online or in person with EHS. For the in-person training, they will sign attendance rosters and successfully complete a written exam demonstrating their understanding of the principles taught in the classroom. If the training is completed online, they must show proof of successful completion. These records will be kept on file at EHS.
2. Evaluations for Operators must be kept on file in the department where the employee works for as long as they are employed at UConn and copies forwarded to EHS (see form in **Appendix B**).
3. Refresher Training sessions must be documented as required in section VI.C. and must be kept on file in the department where the employees work for as long as they are employed at UConn, with copies forwarded to EHS.
4. Once the Operator Trainee has successfully completed the Lift Truck Operator Safety Training and Practical Training to the satisfaction of the Authorized Evaluator, a copy of the completed evaluation form should be forwarded to EHS. Once an evaluation form has been received, EHS will issue a Lift Truck Operator's Endorsement to the employee. The Endorsement will be valid for three years from the date of last evaluation. The records pertaining to this Endorsement will be kept on file at EHS.
5. Endorsement stickers issued to Operators are required to be applied on the back side of the Operator's University ID card and kept on their person whenever they operate a lift truck.

VIII. Lift Truck Approvals

A. Labels

Lift trucks must bear a label or some other identifying mark indicating approval by a nationally recognized testing laboratory. The testing laboratory listing for each lift truck designates the fire safety approval for the intended use of the truck.

B. Approval Designations

There are eleven different approval designations for lift trucks. OSHA 29 CFR 1910.178(b) and (c) outlines these designations and their approved uses. Departments should contact EHS with questions or for assistance in determining approval requirements for lift trucks in their departments. Generally, lift trucks powered by gasoline or diesel fuel must be only operated outdoors. Electric powered lift trucks are suitable for general indoor use and LP or propane fueled trucks can be utilized outdoors and in well-ventilated indoor locations such as warehouses. Contact EHS if there is a need to purchase a specialized lift truck for unusual locations (e.g., clean rooms, areas where intrinsically safe equipment is required, or use in other uncommon circumstances).

IX. Lift Truck Configuration

A. Attachments almost always affect the rated capacity of lift trucks. No modifications or additions which affect capacity and/or safe operation may be performed without the manufacturer's prior written approval.

B. When approval has been granted, the capacity, operation, and maintenance instruction plates, tags, or decals, must be changed accordingly by the supervisor responsible for purchasing the attachment. If plates, or decals are not supplied by the manufacturer, then the supervisor is responsible for procuring and applying the new rating plates, tags, or decals.

C. When approval has not been granted or if no response is received from the manufacturer, OSHA will accept a written approval of the modification/addition from a qualified, registered professional engineer. Prior to granting approval, the qualified registered professional engineer must perform a safety analysis and address any safety or structural issues contained in the manufacturer's response for not approving the modification/addition. When approval has been granted, machine data plates must be developed by the engineer and changed accordingly.

D. On every removable attachment (excluding fork extensions), a nameplate with the following information obtained from the attachment manufacturer is required:

- Model number
- Serial number on hydraulically actuated attachments
- Maximum hydraulic pressure on hydraulically actuated attachments
- Weight
- Capacity

E. The following instructions (or equivalent) must also be inscribed on each attachment: "Capacity of Lift Truck and attachment combination may be less than capacity shown on attachment. Consult Lift Truck nameplate."

F. Departments must ensure that lift trucks using attachments (including fork extensions) are marked to identify the attachment(s), show the approximate weight of the truck and

attachment combination, and show the capacity of the lift truck with attachment(s) at maximum elevation with the load laterally centered.

G. All lift truck nameplates and markings must be verified as being in place on the pre-operation checklist (Appendix A) and must be maintained in a legible condition.

X. Lift Truck Operation

A. Pre-start Requirements for Operators

1. Be familiar with the manufacturer's use requirements.
2. Complete the pre-operational checklist at the start of each shift used and turn it in to their supervisor (See Appendix A for checklists). Verify that all brakes, controls, gauges, lights, and routine operational features are in proper working order. Check for leaks and report any noted defects immediately to their supervisor and correct them or the lift truck must be tagged out and not used until it is repaired (Note: Pre-operational checklists must be kept on file at the department using the lift truck for a minimum of one year).
3. Be aware of the load capacity for the truck and not exceed it.
4. Never use the lift truck for purposes outside manufacturer's design specifications.
5. Be cognizant of the planned route and aware of areas with inadequate headroom, lighting, obstructions, and floor surface problems.
6. Wear personal protective equipment in accordance with the Workplace Hazard Assessment for their work site.

B. General Lift Truck Operational Requirements

1. Never operate any lift truck until the required shift inspection has been performed and documented.
2. Obey plant/site-specific speeds and traffic regulations, including wearing seat belts in sit-down lift trucks.
3. Operate loaded trucks with forks no more than 6-8 inches above the ground, with the load carried low and tilted back.
4. Never raise or lower loads while moving.
5. Never carry anything on the overhead guard or hang anything off the guard that might obscure visibility.
6. Make use of plant/site convex mirrors when approaching blind corners/intersections.
7. Yield right of way to pedestrians and emergency vehicles and avoid pedestrian lanes.
8. Drive cautiously on uneven or slippery surfaces and avoid loose materials in roadways or parking lots.
9. Ensure the load is pointed uphill where the gradient is greater than 10 percent.

10. Maintain all original safety equipment, including fire extinguishers, provided by the manufacturer, unless the manufacturer approves a change.
11. Never engage in stunt driving or horseplay.
12. Properly secure the dockboard or bridgeplates and drive over them carefully and slowly, never exceeding their rated capacity.
13. Approach elevators slowly and enter squarely only after the elevator car is properly leveled. Once on the elevator, the truck controls must be neutralized, the brakes set, and the power shut off until the desired floor is reached.
14. Ensure motorized hand trucks enter elevators or other confined areas with load end forward.
15. Negotiate turns, by reducing speed and turning the hand-steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel must be turned at a moderate, even rate.
16. Never drive up to anyone standing in front of a fixed object.
17. Never allow any person to stand or pass under the elevated portion of any truck, whether loaded or empty.
18. Never allow unauthorized riders on lift trucks. Only operators wearing seat belts may ride lift trucks. (Note: lift trucks specifically designed to operate from a standing position are exempt from the seatbelt requirement).
19. Use proper fall protection equipment in accordance with the manufacturer and the University's Fall Protection Program at all times whenever operating high-rider (aka, order-picker) lift trucks.
20. Never ride lift trucks with arms or legs placed between the uprights of the mast or outside the running lines of the truck.
21. Maintain a safe distance from the edge of ramps or platforms while on any elevated dock, platform, or truck bed. Lift trucks must not be used for opening or closing freight doors.
22. Set brakes and wheel chocks in place to prevent movement of trucks, trailers, while loading or unloading. Fixed jacks may be necessary to support a semi-trailer during loading or unloading when the trailer is not coupled to a tractor. The flooring of trucks and trailers will be checked for breaks and weakness before they are driven onto.
23. Use an overhead guard as protection against falling objects. Overhead guards offer protection from the impact of small packages, boxes, bagged material, and other materials representative of the job application, but may not withstand the impact of a falling capacity load.
24. Use a load backrest extension whenever necessary to minimize the possibility of the load or part of it falling rearward.

25. Use only lift trucks designed for indoor locations (i.e., electric powered lift trucks and propane models) if the space is well ventilated. Consult with EHS if unsure as to which truck designations are needed to operate indoors.

26. When lifting personnel using a lift truck, perform the lift in accordance with ANSI/ITSDF B56.1, Part II, Section 4.17 Evaluating Personnel, utilizing a personnel platform attachment approved by the lift truck's manufacturer or one that is approved and certified by a registered professional engineer (See Section IX. Lift Truck Configuration).

C. **Loading/Unloading Requirements**

1. Ensure the load is within the lift truck's rated capacity.
2. Place the load squarely on forks until it touches the carriage.
3. Ensure the load is stable and centered on forks. Stack or tie loose or uneven loads.
4. Tilt the mast back slightly when lifting the load.
5. Ensure when loading/unloading onto trucks that the wheels of the truck are chocked or dock clamps in place, brakes are engaged, and dockboard or bridgeplate loading platform is positioned properly.
6. Ensure the proper safe weight or height-to-load ratio is maintained when loading/unloading onto or from racks or stacked materials.
7. Take notice of overhead and wall mounted obstructions when elevating loads, including, but not limited to, fire extinguishers, sprinklers, pipes, electrical conduits, switches, ceiling fans, etc.
8. Never perform free rigging, the direct attachment to rigging, or the placement of rigging equipment (e.g., slings, shackles, rings, etc.) onto the tines of a lift truck since they do not use an approved lifting attachment. OSHA considers free rigging an action that could affect the capacity and safe operation of a powered industrial truck. OSHA (29 CFR 1910.178(a)(4)) requires that "Modifications and additions which affect the capacity and safe operation must not be performed by the customer or user without manufacturers prior written approval."
9. Use extreme care tilting the load forward or backward, particularly when high tiering. An elevated load must not be tilted forward except to pick up a load, or when the load is in a deposit position over a rack or stack. When stacking or tiering, use only enough backward tilt to stabilize the load.

D. **Parking Requirements**

1. When a lift truck is left unattended, fully lower the carriage/forks, set controls to neutral, shut off power, and set brakes.

2. A powered lift truck is considered unattended when the operator is 25 ft or more away from the vehicle which remains in view, or whenever the operator leaves the vehicle and it is not in view.
3. When the operator is dismounted and within 25 ft. of the truck still in view, the carriage/forks must be fully lowered, controls neutralized, and the brakes set to prevent movement.
4. Select flat parking surfaces, away from traffic where the vehicle does not obstruct doors, pedestrian routes, aisles, exits, fire lanes, or access to stairways, handicap ramps, parking, or fire equipment.
5. Chock the wheels of the lift truck if the truck is parked on an incline.
6. Remove the keys and secure the vehicle when not in use to prevent operation by unauthorized personnel.

E. **Refueling Requirements**

1. Refuel only in assigned, ventilated areas containing no ignition sources.
2. Turn off the engine and allow it to cool for a minimum of 2 minutes prior to refueling.
3. Have fire suppression and cleanup equipment available.
4. Extinguish smoking materials.
5. Never use open flames to check fuel level.
6. Try to prevent spills, clean any spills promptly, and replace fuel cap before starting or moving vehicle.
7. Follow the vehicle manufacturer's instructions for gas or propane fueling.
8. Take empty propane tanks to an authorized compressed gas cylinder disposal/storage area.
9. Use acid-resistant material-handling equipment and wear corrosion-resistant personal protective equipment during battery charging/changing.
10. Follow the manufacturer's user manual for charging instructions.
11. Pour acid into water, not water into acid.
12. Ensure that lift trucks have brakes applied while changing batteries.
13. Use an overhead hoist or equivalent material handling equipment for handling batteries, when necessary.
14. Ensure that proper facilities are used for flushing and neutralizing spilled electrolyte, fire protection, protecting the charging apparatus from damage from trucks, and for adequate ventilation to disperse fumes from gassing batteries.

XI. Maintenance of Lift Trucks

Only trained and authorized personnel must be permitted to maintain, repair, or adjust lift trucks; these services must be provided in accordance with manufacturer's specifications.

XII. Contractor Use of Lift Trucks

Contractors using lift trucks on UConn campuses must do so in accordance with The University of Connecticut Contractor EHS Manual. Special attention must be paid to the sections regarding *Powered Industrial Vehicles (PIVs)* and *Combustion Engines – Indoors*. Contractors may not use UConn-owned or leased PIVs unless they are contractually indemnified to do so or have signed a separate indemnification authorizing them to do so.

XIII. Appendices

Appendix A: Operator's Pre-Operation Checklists

Lift trucks must be inspected before each shift used and immediately after service, maintenance or repair. The following pre-operational checklists are to be completed to document these inspections.

In maritime applications, where log use is the standard form of documentation, these checklists must be used as a guide to perform the lift truck inspections, and any discrepancies must be noted in the required log as well as a notation that all other aspects of the referenced checklist are nominal.

Checklists or logs must be kept on file at the department using the lift truck for a minimum of one year.

Electric Pallet Jack

http://media.ehs.uconn.edu/Occupational/GeneralSafety/LiftTruckOperatorsPre-OperationChecklist-ElectricalPalletJack.pdf

Electrical Truck

http://media.ehs.uconn.edu/Occupational/GeneralSafety/LiftTruckOperatorsPre-OperationChecklist-ElectricalTruck.pdf

Gas/LPG/Diesel Truck

http://media.ehs.uconn.edu/Occupational/GeneralSafety/LiftTruckOperatorsPre-OperationChecklist-Gas-LPG-DieselTruck.pdf

Appendix B: Evaluation for Lift Truck Operators Form

http://media.ehs.uconn.edu/Occupational/GeneralSafety/EvaluationForLiftTruckOperators.pdf

Appendix C: Refresher Training Form

http://media.ehs.uconn.edu/Occupational/GeneralSafety/LiftTruckRefresherTrainingForm.pdf

Appendix D: References

United States Department of Labor - Occupational Safety and Health Act, Subpart N, Material Handling and Storage, 1910.178 - Powered Industrial Trucks.

Industrial Truck Standards Development Foundation ANSI/ITSDF B56 Standards
ANSI/ITSDF B56.1 Low Lift and High Lift Trucks
ANSI/ITSDF B56.5 Guided Industrial Vehicles and Automated Functions of Manned Industrial Vehicles
ANSI/ITSDF B56.6 Rough Terrain Forklift Trucks
ANSI/ITSDF B56.8 Personnel and Burden Carriers
ANSI/ITSDF B56.9 Operator Controlled Industrial Tow Tractors
ANSI/ITSDF B56.10 Manually Propelled High Lift Industrial Trucks

NFPA 505 Fire Safety Standard for Powered Industrial Trucks Type Designations, Areas of Use, Maintenance and Operation

UL 583 Standard for Safety for Electric-Battery-Powered Industrial Trucks

UL 558 Standard for Safety for Internal Combustion Engine-Powered Industrial Trucks