Forklift and Industrial Work Truck Safety Program

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Description: This program guides all aspects of the Forklift and Industrial Lift Truck Safety Program for the University of California at Berkeley. As mandated by Cal/OSHA and other regulatory compliance codes, this program guides compliance with, and application of, all legal requirements for UC Berkeley departments, field stations and work / research operations that use these types of equipment.

Departments that own, lease, rent and/or otherwise operate forklifts and other types of industrial lift trucks must:

1. Select and then purchase, lease or rent appropriate equipment for job tasks based upon an work-environment and job-task hazard analysis,
2. Train and license personnel who operate the specific type(s) of owned / rented equipment,
3. Conduct documented safety inspections and preventive maintenance of the equipment,
4. Assure operators adhere to specific safe-work practices whenever using these types of powered industrial equipment, and
5. Approve Contractors / Vendors to use forklifts and industrial lift equipment on their premises, and only allow properly licensed contractor / vendor personnel to use Department-owned equipment.

For basic information about this program, please review the Forklift and Industrial Lift Truck Safety Program FAQ/Fact Sheet to become familiar with program requirements, equipment and environmental hazards and their controls.

For easy navigation and access to all sections of this program, please proceed to the Forklift and Industrial Lift Truck Safety Program Table of Contents.
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Purpose
This program guides all aspects of the Industrial Lift Truck/Forklift Safety Program for the University of California at Berkeley (UCB). As mandated by Cal/OSHA and other regulatory compliance codes, this program guides departments that rent/lease/own and operate Powered Industrial Lift Trucks / Forklifts to train and license personnel who operate their equipment, conduct periodic safety inspections and preventive maintenance of the equipment, and adhere to specific safe-work practices whenever using these types of powered industrial equipment.

Applicability/Scope
This program applies to all UCB faculty, staff and students who are required or request to operate Powered Industrial Lift Trucks (forklifts), or who must oversee persons operating Powered Industrial Lift Trucks, for any portion or aspect of their research, instruction and/or work. It only applies to equipment designed to lift material and equipment that is on pallets or other „gathered” framework devices, and move it across a surface and set it down, or place it in a storage rack. It does not apply to equipment designed to lift people to create an elevated work area / platform with two key exceptions noted below. Equipment that lifts personnel are known as “Aerial Lifts” or “Elevated Work Platforms” and regulated under the UCB Aerial Lift and Elevated Work Platform Program [INSERT HYPERLINK WHEN KNOWN].

This program DOES apply to order-picker equipment where the operator of the equipment is elevated along with the forks to place / retrieve palleted materials from high-storage racks. It also DOES apply to forklifts that have had a “personnel lifting platform” attached to the forks. In both these situations, the personnel who are elevated by the equipment must wear fall protection gear while aloft, and be trained on the requirements of the UCB Fall Protection Program [INSERT HYPERLINK WHEN KNOWN].

Roles/Responsibilities

All UC Berkeley Staff, Faculty and Students
All UCB faculty, staff and students who are required or request to operate Forklifts / Powered Industrial Lift Trucks or who must oversee persons operating Powered Industrial Lift Trucks, must know about the requirements of this program.

Departments that own/use Industrial Lift Trucks
Departments that own, operate, or allow the operation of forklifts / powered industrial trucks at their facilities assure that all UCB faculty, staff, or student operators have current operator’s licensure from the Office of Environment, Health and Safety (EH&S).

Department Safety Coordinators
Assure that all aspects of this program are implemented in their department including current operator licensure from EH&S, scheduling training/retraining as needed, and maintain equipment inventories, program training and inspection records.
Industrial Lift Truck Operators
Operators must be trained and successfully complete “Forklift Safety Training” conducted by EH&S in the safe operation of the specific manufacturer and model of powered industrial trucks that are rented, leased or owned by UCB that they will be using. Successful training results in three-year licensure to operate that specific type of equipment. Licensure must be attained for each manufacturer / model of powered industrial equipment operated, and is NOT transferable or global to a category of equipment. Training is very specific to each manufacturer and model of equipment operated by the Operator. 
Operators are responsible to renew their Operator’s License within 90-days of the 3-year expiration date of their license by enrolling in „retraining” with EH&S.

Truck Drivers employed by UC Berkeley
UC Berkeley truck drivers that have a current “Forklift Safety” license issued by EH&S may operate powered industrial trucks to load or unload their truck.

Truck Drivers making deliveries to UC Berkeley
Vendor truck drivers that have been trained under their company’s powered industrial trucks program, have a valid Operator’s License issued by their employer within the past three years, and have the UCB Department’s permission, may operate their employer’s forklifts / powered industrial trucks on UCB premises.

Contractors and Vendors using Industrial Lift Trucks on UC Berkeley Property
Contractor or Vendor employees that have been trained under their company’s powered industrial trucks safety program, have a valid Operator’s License issued by their employer within the past three years, and have the UCB Department’s permission, may operate their employer’s forklifts / powered industrial trucks on UCB premises. Whether the operator is a vendor or contractor, they may be required to show verification that they have been trained within the last three years by host Department management or EH&S.

Contractor or Vendor employees who must use UCB rented/leased/owned equipment must be licensed by UCB EH&S to operate the UCB equipment. UCB Departments who find themselves in the position of needing to license a Contractor or Vendor to use UCB equipment are responsible to arrange for training and licensure of the Contractor / Vendor personnel with EH&S.

EH&S – (Forklift Safety Program Manager)
EH&S manages this program for UC Berkeley through the direction of the “Forklift Safety Program Manager”. This person is responsible for all aspects of managing and implementing this program including:

- Assures this program is updated regularly to maintain compliance with codes and regulations as they change, or at least every three years.
- Communicates program changes, objectives and requirements to all departments impacted by this program.
- Manages online training and tracking/record-keeping of all trainees
- Develops and updates training content as needed.
- Manages program databases and records of Operator Licensure.

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Arranges for safe locations to conduct “hands on” field training.
Conducts “hands on” field training and assessment of Operator trainees.
Works with client departments to develop custom training for unique and “department-specific” industrial lift equipment.
Conducts periodic program audits at client departments to assure the program is being properly implemented and followed.
Conducts periodic “customer service” inquiries to learn how the program can be modified to better meet client department need.
Modifies program content and procedures as needed to improve program effectiveness and ease to implement/track.

Definitions

**Counter Weight** – The rear section or area of the forklift which is usually made of solid steel, and/or combination of steel and the weight of the battery on an electric lift, that counter balances the load that is placed on the forks. (See Attachment 1)

**Data Plate** – Manufacturer’s equipment specification and information data, which includes load rating/lift capacity, lift heights, load center measurements, vehicle weight, and vehicle attachments. This plate is required to be affixed to all Industrial Lift Equipment by regulatory code. This is the vehicle operator’s primary source of basic information about their vehicle for safe-work and use planning.

**Dumpster Bin** – A fork-attachment used to transport a variety of materials. Always stand clear and keep hands away from all pinch points when releasing the lever to dump the bin.

**Fall Protection** – An approved full body safety harness w/lanyard is to be worn at all times and attached to a secure anchor point when drivers or personnel are using an Order Picker/Stock Picker Industrial Lift Truck or “Personnel Lifting Platform” fork attachment.

**Fork Extensions** – These attachments can be slipped over the existing forks to lift larger/longer loads with greater stability. Using Fork Extensions does not increase the forklift lift load capacity.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load Backrest Extension</td>
<td>A device (permanently affixed or removable) extending vertically from the fork carriage/load apron frame.</td>
</tr>
<tr>
<td>Load Apron</td>
<td>The part of the fork carriage permanently affixed and extending vertically from the fork carriage upon which the forks are “hung”/attached.</td>
</tr>
<tr>
<td>Mast</td>
<td>Part of the lifting mechanism that the hydraulic lift cylinders are attached which allows the load to be lifted up and down.</td>
</tr>
<tr>
<td>Overhead Guard</td>
<td>An overhead protection or shield which covers the machine operator in a manner that will minimize the possibility of injury from falling objects. Usually built into an ROPS.</td>
</tr>
<tr>
<td>Personnel Lifting Platform</td>
<td>A fork-attachment work platform designed for personnel to safely perform work in an elevated location. Fall protection is required during use of this attachment. Refer to the operating instructions for this fork-attachment and “Fall Protection” in this section.</td>
</tr>
<tr>
<td>Powered Industrial Truck</td>
<td>A mobile power-driven truck used for hauling, pushing, lifting, or stacking materials.</td>
</tr>
<tr>
<td>Rider Truck</td>
<td>Any industrial lift truck that is designed to be controlled by a riding operator. The operator may be standing or sitting on the industrial lift truck during operation depending upon its design.</td>
</tr>
<tr>
<td>ROPS</td>
<td>An acronym for “Rollover Protective Structure” that includes protective frames, overhead guards and driver enclosures to isolate the driver from injury in a “safe zone” in the event of rollover or falling objects.</td>
</tr>
<tr>
<td>Seat Belt</td>
<td>The seat belt limits body movement and mechanically “connects” the operator to the equipment keeping the forklift operator inside the safety zone of the ROPS during a rollover.</td>
</tr>
<tr>
<td>Side Shifter</td>
<td>An equipment attachment that allows the forks and load apron carriage to be shifted side to side, allowing easier fork-load alignment.</td>
</tr>
</tbody>
</table>
Types of Industrial Lift Trucks

**Electric Pallet Jack** – An Electric Powered Lift that the operator walks behind that is made for carrying palletized material. It is designed to lift the load 6” or less, and not for stacking or placing the load up into storage racks. See [Attachment 6](#) for Pre-Operation Inspection Checklist.

**Walkie-Stacker** – An electric powered device that the operator walks behind that is designed with a mast and is made for transporting palletized materials, with the option of stacking pallets up to four (4) high. See [Attachment 6](#) for Pre-Operation Inspection Checklist.

**High Lift Truck / “Common Forklift”** – The most commonly used Powered Industrial Lift. Also referred to as a cantilever type forklift, because it has a counter weight to offset the load it is designed to carry. See [Attachment 7](#) Pre-Operation Inspection Checklist for diesel, gasoline, or propane powered equipment; or [Attachment 8](#) Pre-Operation Inspection Checklist for electric / batteries powered equipment.

**Narrow Aisle Lift** – The Narrow Aisle Lift operates differently from other lifts in that the operator stands while riding on the lift, with a steering wheel and other controls located near their waist area on most models. The load scissors in and out of the racking system. Powered by propane or electricity / batteries depending upon design / use. See [Attachment 9](#) for Pre-Operation Inspection Checklist.

**Order Pickers and Stock Pickers** – A lift that the operator rides on and can be raised up/down on a platform adjacent to the forks to retrieve items from storage racks. Operators using this device must wear proper fall protection (Body-Harness and Lanyard) in compliance with Cal/OSHA Fall Protection codes. Powered by propane or electricity / batteries depending upon design / use. See [Attachment 9](#) for Pre-Operation Inspection Checklist.

**Peti-Bone** – Used to lift large/heavy loads, this lift is all-wheel drive and is made for rough, uneven or steep terrain. Powered by diesel or gasoline. See [Attachment 10](#) for Pre-Operation Inspection Checklist.

**Rough Terrain Lift** – These lifts are used mostly on construction sites for their ability to conquer rough terrain and telescope to reach high locations. Powered by diesel, gasoline, or propane depending upon design / use. See [Attachment 10](#) for Pre-Operation Inspection Checklist.
Administrative Requirements
The Department Management responsible for purchasing/owning the Industrial Lift Truck(s) designates the person(s) responsible for the following actions:

Procurement/Selection of Equipment Based on Evaluation of Work Area Hazards
Based upon the “Lift Truck Work-Site Hazard Inspection Checklist” (Attachment 5), the Department identifies hazards encountered throughout the Department during industrial truck use. The Department then procures and outfits Industrial Lift Trucks that will safely operate in the Department’s work environment with the anticipated maximum load capacity required. Unusual or potential hazardous locations or operations in a department’s work environment are marked with appropriate warnings via signage and paint striping, or reduced through Operator training and appropriate equipment selection/maintenance.

Inventory of Department Industrial Lift Equipment
The Department conducts and maintains an inventory list of Industrial Lift Equipment owned/used by the Department using Attachment 2 or similar. This list is used to identify training needs, equipment maintenance requirements, and to identify and limit equipment to safe use for department business activities. This list is updated periodically as the Department procures or retires equipment, and is referenced to determine what equipment requires Operator’s Licensure to use.

Identification of Department Personnel Requiring Industrial Lift Truck Training
The Department identifies specific Department Personnel and others who are allowed to operate the Department’s Industrial Lift Trucks. This Operator Roster (Attachment 3 or similar) is used to identify training needs and to identify and limit equipment to safe use for department business activities. This list is updated periodically as the Department manages compliance with this program, when lifting needs and/or equipment changes, and when personnel are enrolled or leave this program. The Department may enroll personnel in the University’s Learning Management System (LMS) for inclusion in the Forklift Safety Program and for online tracking of training and recordkeeping.

Assuring Training/Qualification/Retraining of Department Personnel
CalOSHA codes require all powered industrial truck operators employed at UCB are enrolled in this Forklift / Industrial Lift Truck Program and receive initial training and retraining at a minimum of every three (3) years. The Department enrolls their select personnel in the program, and EH&S conducts training and maintains records of all forklift / industrial lift training given at UCB.

Operator Training/Licensing Procedures
Each Operator must successfully complete Operator Safety Training prior to operating a powered industrial truck on UC Berkeley property. Trainees may only operate the Industrial Lift Equipment type they have been trained on and licensed to operate, or when under the direct supervision of persons who have the knowledge, training and experience to train operators and evaluate their competence. Training is conducted in a location where such Lift-Truck operation does not endanger property, the trainee or others.
EH&S ensures that each powered industrial truck operator is competent to operate a powered industrial truck safely and in compliance with Cal/OSHA requirements, as demonstrated by the successful completion of the training and evaluation specified below. Training consists of a combination of written, classroom and/or interactive computer learning, followed by hands-on “field” training.

**Written/Classroom/Online Training**

Written, classroom or online training consists of content as outlined in Cal/OSHA training requirements for Industrial Lift Trucks, is general in nature and includes familiarization with equipment types and components, hazard assessment and mitigation, equipment inspection requirements, load positioning and securing techniques, and other requirements of this program. For departments with a limited number of employees using forklifts, EH&S suggests that CalOSHA’s online training with self-guided sign-up/tracking of training through the University’s Learning Management System (LMS) is adequate for most users. Follow instructions on Attachment 11 for taking CalOSHA’s online training and getting UCB credit for doing so. For large departments that have more than 20 personnel who must be licensed to operate Industrial Lift Equipment, in-house classroom training/retraining with a written quiz is available. Please contact EH&S at 642-3073 to arrange such training.

**Written Tests**

Whether classroom or online training is used, a written final exam is administered demonstrating the trainee’s understanding of basic Industrial Lift Truck operation and safety. Completion of this final exam with a passing grade of 70% or higher is required before the scheduling of the hands-on/field training. Records of successfully completed exams are kept by the LMS and also optionally by the Department in the trainee’s personnel file. If using online training, follow the instructions on Attachment 11 for taking CalOSHA’s online training exactly as detailed to get UCB credit for completing the training.

**Hands-On/Field Training/Testing**

The “Hands-On” training and testing is conducted using the specific Industrial Lift Equipment for which training is occurring under the direct supervision of the EH&S trainer who has the knowledge, training and experience to train powered industrial truck operators and evaluate their competence. Field training using a Powered Industrial Lift Truck includes demonstrations performed by the trainer, practical exercises performed by the trainee and observed by the trainer, as well as evaluation of the trainee's successful performance on a standard “skills assessment” course.

**Operator Licensing**

When the trainee successfully completes both written and hands-on testing, EH&S certifies and ‘licenses’ that the Operator has been trained and evaluated as required by this program and Cal/OSHA law. The license includes the following:

- The name of the Operator,
- The completion date of the training,
- The date of the evaluation,
- The identity of the person(s) performing the training or evaluation,
- The date the certification expires, and
The types of industrial trucks the operator(s) is/are “licensed” to operate.

See Attachment 4 for the photo of what a UC Berkeley Industrial Equipment License looks like.

An Operator’s License is issued by EH&S, is credit-card size, is valid for three years, and must be carried by the Operator whenever he/she is operating an Industrial Lift Truck on UCB property. Within 90 days of expiration, the Operator is responsible to schedule re-training/licensure with EH&S through the LMS, or with their Department’s DSC/responsible person.

Refresher Training
Refresher training is conducted to ensure the Operator has the knowledge and skills needed to operate powered industrial trucks safely. Law requires that refresher training is provided every three years to the Operator or when:

- The operator has been observed to operate the equipment 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 operator is not operating the lift truck 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.

Refresher training content is determined by the Forklift Safety Program Manager/Trainer based upon observed hazards, type of equipment, Department need, and work requirements. If an Operator has successfully completed classroom training in the past three years, and such training is appropriate to a new truck and/or working conditions, additional classroom training is not required for the new equipment if the operator has been evaluated in a “hands-on” field training and found competent to operate the new truck or perform in the new working conditions safely.

Operator Procedures

Operator Site Evaluation and Equipment Selection
Prior to conducting work with a Powered Industrial Lift Truck, an Operator conducts a “Site Evaluation” and a “Truck Selection Assessment” using Attachment 5 or similar. This assessment is conducted as environmental hazards and job requirements dictate, but is formally completed by every Operator at the beginning of working in a new or unfamiliar location, or when new or unfamiliar hazards are identified. This assessment ensures that the proper lift equipment is selected for the work, and that all hazards in the work area are identified and mitigated prior to commencing work.

Pre-Operation Inspection
At the beginning of each work shift, or prior to using an Industrial Lift Truck for a new work assignment, the Operator conducts a documented “Pre-Operation Inspection”. This inspection is specific to the type of lift equipment, and includes visual and auditory inspection of all safety and operational components of the equipment. Results of this inspection are documented on inspection checklists. Please refer to Attachments 6 - 10 for Inspection Checklists to be used for daily inspections of various types of Lift Trucks covered by this program.
“Lift Truck Tag Out” for Repair
No lift truck is used until any deficiency(s) discovered during a Pre-Operation Inspection are corrected. If a hazardous deficiency is discovered during a Pre-Operation Inspection, the Operator alerts their Supervisor of the condition, and “Tags Out” the truck from being used by controlling all ignition keys for the vehicle, and placing a “Warning Tag” on the vehicle steering wheel with the following information:

1. Person’s name that has “Tagged Out” the vehicle and has the keys in their possession as well as their contact information.
2. Date vehicle was “Tagged Out”.
3. Reason(s) for “Tagging Out” the vehicle including all noted deficiencies. (A photocopy of the completed inspection form may be taped to the steering wheel for this purpose.)
4. Name and contact information for the Department’s responsible person for implementation of this program.

No repairs are made on any industrial trucks until the vehicles and their components are blocked, tagged, locked out or otherwise made safe for repair work to commence according to application of the UC Berkeley Energy Isolation Program.

Safe Operating Practices
Prior to operation or at the beginning of each shift, review/confirm planned use and needed functions, assess work conditions and document the following using Attachments 6 - 10:

1. Check the work area for hazards, and remove/control them prior to operation.
2. Only use a truck designed to safely work in the work-area conditions observed.
3. Review operating instructions, warnings, and precautions for the types of truck being operated.
4. Remember the differences between the lift-truck drive-train/steering and an automobile.
5. Review truck controls and instrumentation. Where are they located, what do they do, and how do they work?
6. Check engine or motor operation.
7. Assure safety systems are working properly i.e. horn, backing alarm, warning lights, etc…
8. Check steering and maneuvering as being sound and solid.
9. Familiarize yourself with visibility (including restrictions due to loading and truck components).
10. Review fork and attachment adaptation, operation, and use limitations.
11. Review vehicle capacity and vehicle stability.
12. Complete vehicle inspection and maintenance that the Operator is required to perform.
13. Check fuel and/or charging and recharging of batteries, and refuel/recharge as needed.
14. Review Lift Truck operating limitations.
15. Review other operating instructions, warnings, or precautions listed in the operator’s manual for the types of vehicle that the operator will operate.
16. Alert all persons in the work area of intended work activities and hazards.

Securing the Load
1. Always place the load against the backrest to help stabilize the load.
2. Always place the larger or heaviest part of the load closest to the backrest.
3. If carrying wide loads such as lumber or steel, adjust the forks as wide as possible.

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4. Use ropes or straps to secure the load as needed. But only attach to the Backrest Extension or Apron Carriage.
5. Use clamps or wood blocks to keep round objects such as pipes from rolling during transport.
6. Never have a person walk in front of the forklift to stabilize a load while the forklift is being driven.
7. Use shrink wrap or tape as needed to secure items stacked on pallets.

**Conducting the Lift/Carry**

1. Always evaluate the situation before making a lift.
2. Always pickup an object with the heaviest side against the backrest.
3. If the load is too large to see around, always drive in reverse.
4. Never allow a person to walk or stand between the Lift Truck/load and another object.
5. Always carry the load as low as possible and watch for overhead obstructions.
6. Always honk the horn at intersections, blind spots, corners, or where pedestrians are near.

**Training Requirements**

**All UC Berkeley Staff, Faculty and Students**

All UC Berkeley staff, faculty and students are informed of the basic requirements of this program with the primary knowledge that they must be trained and licensed to operate an Industrial Lift Truck prior to doing so on UCB property.

**Departments that own/use Industrial Lift Trucks**

Departments that own/use Industrial Lift Trucks are familiar with the Administrative and Personnel Training Procedures of this program, and implement/integrate them into their research/work/business practices.

**Department Safety Coordinators**

Department Safety Coordinators receive detailed training and support from the Fork Lift Program Manager concerning their roles/responsibilities in implementing/integrating this program into their Department’s research/work/business practices.

**Industrial Lift Truck Operators**

Industrial Lift Truck Operators must enroll in the LMS and successfully complete the “Written/Online” training, or classroom training with quiz, as well as Hands-On “Field” Training for each type of Industrial Lift Truck they will be “Licensed” to use.

**Truck Drivers employed by UC Berkeley**

Truck drivers employed by UC Berkeley must enroll in the LMS and successfully complete the “Written/Online” training, or classroom training with quiz, as well as Hands-On “Field” Training for each type of Industrial Lift Truck they will be “Licensed” to use.
Truck Drivers making deliveries to UC Berkeley

Truck Drivers making deliveries to UC Berkeley must be aware that they must have a valid Operator’s License issued by their employer within the past three years on the type of powered industrial truck(s) that they will use at UC Berkeley; have UC Berkeley’s permission to operate their employer’s powered industrial trucks on UC Berkeley premises; must carry on their person and produce upon request verification in the form of an “Operator’s License” from their employer that they have been trained within the last three years.

Contractors using Industrial Lift Trucks on UC Berkeley property

Contractors using Industrial Lift Trucks on UC Berkeley property must be aware that they must have a valid Operator’s License issued by their employer within the past three years; have UC Berkeley’s permission to operate their employer’s powered industrial trucks on the UC Berkeley premises; must carry on their person and produce upon request verification in the form of an “Operator’s License” from their employer that they have been trained within the last three years.

Contractors using UCB rented/leased/owned industrial lift trucks must be trained and licensed by UCB EH&S before they may operate UCB equipment. It is the responsibility of the Department employing the Contractor to contact EH&S at 642-3073 to arrange for the Contractor to receive training and licensure for using UCB Industrial Lift Equipment.

EH&S – (Forklift Safety Program Manager)

- Is trained on all aspects of program management and requirements.
- Is trained on and familiar with all Cal/OSHA codes relevant to this program (see references below).
- Is aware of and familiar with all Fed/OSHA training and support materials relevant to this program.
- Works with the EH&S Trainer to develop/implement program content into all applicable trainings provided on campus as may be appropriate.

EH&S Trainer

- Is trained on all aspects of this program’s management and requirements.
- Is trained on and familiar with all Cal/OSHA codes relevant to this program.
- Is trained and certified by a Cal/OSHA “Train-the-Trainer” Program to conduct Industrial Lift Truck training.
- Is aware of and familiar with all Fed/OSHA training and support materials relevant to this program.

Record Keeping Requirements

Departments that own/use Industrial Lift Trucks

All departments that have trained powered industrial truck operators should keep a current copy of licensure on file (up to three years). For copies of licensure, please contact EH&S.
Department Safety Coordinators
No record keeping needed, but should verify that all operators have current licensure.

Industrial Lift Truck Operators
Operators that use powered industrial trucks in departments other than their own should at all times have their “UC Berkeley Forklift License” in their possession.

EH&S – (Fork-truck Safety Program Manager)
EH&S maintains a training database and licensure filling system of all UC Berkeley powered industrial truck operators. These records and all past licensure can be accessed anytime electronically by the department, department safety coordinator, supervisor, Cal/OSHA or certified operator.

EH&S Trainer
The Powered Industrial Truck Trainer retains all on-line training tests, forms, and sign-in sheets for record keeping purposes. These records will reside in the “Fork-truck Safety Program Manager” electronic filing system.

References

CalOSHA Online Training Link and Exam  http://www.free-training.com/oshaforklift/forkmenu.htm
(Note: See Attachment 11 for UCB specific instructions on how to access and get credit for taking this online training.)

§1670. Personal Fall Arrest/Restraint Systems  http://www.dir.ca.gov/Title8/1670.html

§3338. Pallets  http://www.dir.ca.gov/Title8/3338.html

§3384. Hand Protection  http://www.dir.ca.gov/Title8/3384.html

§3385. Foot Protection  http://www.dir.ca.gov/Title8/3385.html

§3649. Definitions  http://www.dir.ca.gov/Title8/3649.html

§3650. Industrial Trucks. General  http://www.dir.ca.gov/Title8/3650.html

§3651. Agricultural and Industrial Tractors  http://www.dir.ca.gov/Title8/3651.html

§3653. Seat Belts  http://www.dir.ca.gov/Title8/3653.html

§3655. Overhead Guards  http://www.dir.ca.gov/Title8/3655.html

§3656. Order Pickers and Stock Pickers  http://www.dir.ca.gov/Title8/3656.html

§3657. Elevating Employees with Lift Trucks  http://www.dir.ca.gov/Title8/3657.html

§3659. Back Guards  http://www.dir.ca.gov/Title8/3659.html

§3660. Rated Capacity  http://www.dir.ca.gov/Title8/3660.html
§3661. Brakes and Warning Devices  http://www.dir.ca.gov/Title8/3661.html
§3662. Internal Combustion Engines  http://www.dir.ca.gov/Title8/3662.html
§3663. Maintenance of Industrial Trucks  http://www.dir.ca.gov/Title8/3663.html
§3664. Operating Rules  http://www.dir.ca.gov/Title8/3664.html
§3668. Powered Industrial Truck Training  http://www.dir.ca.gov/Title8/3668.html

Fall Protection Equipment fact sheet  http://ehs.berkeley.edu/pubs/factsheets/65fallprotequip.pdf

UCB Fall Protection Equipment Program  [WHEN KNOWN, INSERT LINK HERE]

Issued By and Next Review Date

Issued by:  Mark Freiberg, Director, UCB EH&S – July 1, 2009
Next Review Date:  June 1, 2012 or sooner upon changes to code requirements.

Attachments

Attachment 1 - Forklift Components Drawing
Attachment 2 - Forklift/Industrial Lift Truck Department Inventory Template
Attachment 3 – Licensed Operator Roster Template
Attachment 4 – Operator License Format Template
Attachment 5 – Lift Truck Work-Site Hazard Inspection Checklist Template
Attachment 6 - Pre-operation Inspection Checklist (Walkie-Stackers & Walking Pallet Truck)
Attachment 7 - Pre-operation Inspection Checklist (Fuel Powered Forklifts)
Attachment 8 - Pre-operation Inspection Checklist (Electric Powered Forklifts)
Attachment 9 - Pre-operation Inspection Checklist (Narrow Aisle Truck & Order Pickers)
Attachment 10 - Pre-operation Inspection Checklist (Petibone & and Rough Terrain Vehicles)
Attachment 11 - On-Line Forklift Safety Training Instructions
Attachment 12 - FAQ / Fact Sheet – Forklift / Industrial Lift Truck Safety Program

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Attachment 1 - Forklift Components Drawing
## Attachment 2 - Forklift/Industrial Lift Truck Department Inventory Template

**Lift Equipment Inventory for ____________________________ Department**

**Instructions:** An initial inventory of Industrial Lift Equipment owned/operated by each department must be conducted to identify all equipment impacted by this program. This must be done by physical inspection. At UC Berkeley, this survey may be conducted by a responsible person in a department, the department’s DSC or their designee and documented on this form. Update this inventory list as equipment is purchased or retired from service, and at least annually.

<table>
<thead>
<tr>
<th>MGFR</th>
<th>Type</th>
<th>Power Source</th>
<th>Nameplate Data</th>
<th>Max. Lift Capacity</th>
<th>Location</th>
<th>Attachments/Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Hyster</td>
<td>High Lift</td>
<td>Propane powered</td>
<td>Model ZH1 S/N 456JV12X798</td>
<td>4500 lbs @ 24” LC</td>
<td>Oxford Track Garage</td>
<td>Forks; Side shift; Hoist Bar General Greenhouse / warehouse use, truck loading / unloading.</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

**DATE:________________  DSC NAME:_________________________  PAGE____OF____**
Attachment 3 – Licensed Operator Roster Template

Licensed Operator Roster for ________________________ Department

**Instructions:** An Operator Roster of Industrial Lift Equipment owned/operated by each department is maintained to identify all personnel enrolled in this program. At UC Berkeley this roster may be maintained by a responsible person in a department, the department’s DSC or their designee and documented on this form, or through enrollment in the University Learning Management System (LMS). Update this roster as equipment is purchased or retired from service, and personnel are added/deleted from using Industrial Lift Equipment within the Department.

<table>
<thead>
<tr>
<th>Operator Name/ID Number</th>
<th>License Number</th>
<th>Operation Location(s)</th>
<th>Equipment</th>
</tr>
</thead>
</table>
| Example: Juanita Sanchez (Employee # or Student ID) | Horticulture OL - 0234
Issued 5/16/09 – 5/15/12 | Oxford Track Garage
Oxford Track Loading Dock
VLSB Loading Dock and Parking Area | Hyster 3-ton High Lift
Crown 2-ton Walkie-Stacker
Electric Pallet Jack |

DATE: ____________DSC NAME: ________________________________ PAGE _____ OF _____
# Lift Truck Site/Operation Hazard Assessment for __________________________ Department

## Location(s):

**Instructions:** An Operator uses this form to conduct a Site Hazard Assessment for Industrial Lift Equipment owned/operated by each department, identify all hazards in the area of intended work, and to select appropriate equipment for the work-task. Update this Hazard Assessment as equipment is purchased or retired from service, Department work activities or hazards change, and when new Operators are added to the Department’s “Licensed Operator” roster for using Industrial Lift Equipment.

## Site Evaluation

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the floor/work surface structurally strong enough to handle the weight/load(s)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are surface conditions where the vehicle will be operated clean, dry and have good traction?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there pedestrian traffic in areas where the vehicle will be operated?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there narrow aisles and other restricted places where the vehicle will be operated?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will the loads to be carried be stable and of uniform composition?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there ramps and other sloped surfaces that could affect the vehicle’s stability?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will there be significant load manipulation, stacking and un-stacking of materials?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there “Classified Hazardous” locations where the vehicle will be operated?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there an enclosed environment(s) or other areas where insufficient ventilation or poor vehicle maintenance could cause a build-up of carbon monoxide or diesel exhaust buildup for combustion motors, or hydrogen gas buildup at electric vehicle recharging stations?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List below other potentially hazardous site-conditions that could affect safe operation:

1. 
2. 

## Process / Use of Lift Truck

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Should a Lift Truck(s) be used in the type of work being conducted?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the Lift Truck(s) have the proper lift height and capacity for the job?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the proper attachments being used in the type of work in this process?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are cables and/or chains being used to lift objects with the Lift Truck?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there designated parking areas for Lift Truck(s)? (Clear of exits, fire extinguishers, hydrants, pedestrian-aisles, doorways, footpaths, or electrical panels.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the fueling and/or charging area well ventilated?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there proper lighting in the areas the Lift Truck(s) is being used?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In loading dock areas, are there proper dock plates available for use?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are Propane bottles being kept in a secure area, and are they tagged “Full” or “Empty”?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List below other potentially hazardous process-conditions that could affect safe operation:

1. 
2. 

(Continued other side)
<table>
<thead>
<tr>
<th>Safety Devices/Signs/Postings/Equipment Repair</th>
<th>YES</th>
<th>NO</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there signs warning pedestrians that Lift Trucks are operating in the area?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there proper warning signs at blind corners, exits, and high traffic areas?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are wheel chocks available if needed during loading or unloading of trucks or trailers?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there proper warning signs in refueling or battery charging areas?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all low overhead obstructions tagged, painted or marked for visibility to operators?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there walking lanes marked with yellow paint for pedestrians to use?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there warning lights or buzzers to warn pedestrians on sidewalks of Lift Truck cross traffic?</td>
<td></td>
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<tr>
<td>Is an eye wash station with a unobstructed path within 10 seconds walking-distance of the battery charging area?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there a sufficient amount of fire extinguishers on site that have been inspected regularly?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the CAL/OSHA poster (Operating Rules) posted and available to all employees who operate Lift Trucks?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are service repair orders for Lift Trucks and/or attachments(s) being kept for record keeping purposes?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are Daily Inspections being done, and are records being kept for program documentation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all other employees in the area aware that Lift Trucks are operating in the area?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all safety devices on the Lift Truck in proper work condition (lights, horn, flashing lights, guards, seat belt, back-up alarm, etc.)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the Lift Trucks being kept in good working condition (maintenance, fuel, battery, oil, hoses, etc.)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>List below other equipment device(s)/operation(s) that could improve safe operation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LIST SUGGESTED TRAINING and SITE/EQUIPMENT/PROGRAM IMPROVEMENTS:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Operator/Evaluator: ____________________________ Date evaluated: __ / __ / __

Supervisor review: ____________________________ Date reviewed: __ / __ / __
### Attachment 6 - Pre-operation Inspection Checklist (Walkie-Stackers & Walking Pallet Truck)

**WALKING PALLET JACK**

**WALKIE – STACKER TRUCK**

<table>
<thead>
<tr>
<th>Forklift Truck MFG</th>
<th>Model</th>
<th>Serial Number</th>
<th>Work Shift</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
</table>

**KEY OFF Procedures**
- Hydraulic cylinders
- Mast assembly (If applicable)
- Lift chains and rollers (If applicable)
- Forks
- Tires/Rollers
- Examine the battery & fire extinguisher
- Check the hydraulic fluid level

**KEY ON Procedures**
- Check the gauges
- Hour meter
- Battery discharge indicator
- Test the standard equipment
- Steering
- Emergency Set Brake
- Safety Kickback Switch
- Horn
- Operation of attachments

Starting Hour Meter Reading >>>>>>

Pre-inspection date >>>>>>

Operator's Printed Initials >>>>>>

Instructions: Operator must check off each item as having been checked “OK” and safe to use during daily inspection prior to operation.
Site Assessment and Vehicle Safety Inspection

Prior to start of the workday, work-shift, or new material handling task, every industrial truck Operator must:

1. Conduct, document and keep on file a completed vehicle safety inspection form.
2. If the Lift Truck is found to be unsafe during daily inspection, report this immediately to a supervisor or mechanic and do not use the Lift Truck until it has been repaired and made safe. Lock/Tag out the Lift Truck in compliance with UC Berkeley's Energy Isolation Program as need determines.
3. Complete any maintenance that the operator is required to perform.
4. Review work area for hazards, and remove/control them prior to operation.
5. Only use a truck designed to safely work in observed work-area conditions.
6. Review operating instructions, limitations, warnings, and precautions for the vehicle.
7. Remember the differences between the lift-truck drive-train/steering and an automobile.
8. Review controls and instrumentation. Where are they located, what do they do, and how do they work?
9. Review engine or motor operation, as well as steering and maneuvering.
10. Become familiar with visibility (including restrictions due to loading and truck components).
11. Review fork and attachment adaptation, operation, and use limitations.
12. Review vehicle capacity and vehicle stability.
13. Check fuel or charge of batteries, and refuel/recharge as needed.
14. Review operating instructions, warnings, or precautions listed in the operator's manual, if available.
15. Alert all persons in the work area of intended work activities and hazards.

Safe Operating Instructions

Prior to and during Operation of an Industrial Lift Truck, every Operator must:

1. Securely fasten their seat belt if the Lift Truck has an ROPS.
2. Where possible, avoid operating the Lift Truck near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Never permit others to ride the Lift Truck.
6. Operate the Lift Truck smoothly and safely, i.e., no jerky turns starts, stops, stunt-driving or horseplay.
7. Hitch only to the drawbar and hitch points recommended by the Lift Truck manufacturer.
8. Set brakes securely and use park lock if available when the Lift Truck is stopped.
9. If a truck must be left unattended for a period of time, shut the vehicle off and remove the ignition keys.

Securing the Load and Conducting the Lift/Carry

1. Always place the load against the backrest to help stabilize the load.
2. Always place the larger or heaviest part of the load closest to the backrest.
3. When carrying wide loads such as lumber or steel, adjust the forks as wide as possible.
4. Use ropes or straps to secure the load, but only attach to the Backrest Extension or Apron Carriage.
5. Use clamps or wood blocks to keep round objects such as pipes from rolling during transport.
6. Use shrink wrap or tape as needed to secure items stacked on pallets.
7. Always evaluate the situation before making an unusual lift.
8. If the load is too large to see around, always drive in reverse.
9. Never allow a person to walk or stand between the Lift Truck/load and another object.
10. Always carry the load as low as possible and watch for overhead obstructions.
11. Always honk the horn at intersections, blind spots, corners, or where pedestrians are nearby.

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## Attachment 7 - Pre-operation Inspection Checklist (Fuel Powered Forklifts)

**HIGH-LIFT TRUCK/FORKLIFT TRUCK (Propane/Diesel/Gasoline)**

<table>
<thead>
<tr>
<th>Key Off Procedures</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead guard</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic cylinders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mast assembly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift chains and rollers</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forks</td>
<td></td>
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<tr>
<td>Tires (Front psi/Rear psi)</td>
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<td></td>
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<tr>
<td>Fuel System Fittings/Levels/Gages</td>
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<tr>
<td>Examine the battery &amp; fire extinguisher</td>
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<tr>
<td>Check the engine/Trans oil level</td>
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<tr>
<td>Check the hydraulic fluid level</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the engine coolant level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Key On Procedures                                       |        |         |           |          |        |          |        |
| Check the gauges                                        |        |         |           |          |        |          |        |
| Hour meter                                              |        |         |           |          |        |          |        |
| Battery discharge indicator                             |        |         |           |          |        |          |        |
| Test the standard equipment                             |        |         |           |          |        |          |        |
| Steering                                                |        |         |           |          |        |          |        |
| Brakes                                                  |        |         |           |          |        |          |        |
| Front, tail, and brake lights                           |        |         |           |          |        |          |        |
| Horn                                                    |        |         |           |          |        |          |        |
| Safety seat (including seatbelt)                        |        |         |           |          |        |          |        |
| Operation of attachments                                |        |         |           |          |        |          |        |
| Starting Hour Meter Reading >>>>>                      |        |         |           |          |        |          |        |
| Pre-inspection date >>>>>                               |        |         |           |          |        |          |        |
| Operator’s Printed Initials >>>>>                       |        |         |           |          |        |          |        |

**Instructions:** Operator must check off each item as having been checked “OK” and safe to use during daily inspection prior to operation.
Site Assessment and Vehicle Safety Inspection

Prior to start of the workday, work-shift, or new material handling task, every industrial truck Operator must:

1. Conduct, document and keep on file a completed vehicle safety inspection form.
2. If the Lift Truck is found to be unsafe during daily inspection, report this immediately to a supervisor or mechanic and do not use the Lift Truck until it has been repaired and made safe. Lock/Tag out the Lift Truck in compliance with UC Berkeley’s Energy Isolation Program as needed.
3. Complete any maintenance that the operator is required to perform.
4. Review work area for hazards, and remove/control them prior to operation.
5. Only use a truck designed to safely work in observed work-area conditions.
6. Review operating instructions, limitations, warnings, and precautions for the vehicle.
7. Remember the differences between the lift-truck drive-train/steering and an automobile.
8. Review controls and instrumentation. Where are they located, what do they do, and how do they work?
9. Review engine or motor operation, as well as steering and maneuvering.
10. Become familiar with visibility (including restrictions due to loading and truck components).
11. Review fork and attachment adaptation, operation, and use limitations.
12. Review vehicle capacity and vehicle stability.
13. Check fuel or charge of batteries, and refuel/recharge as needed.
14. Review operating instructions, warnings, or precautions listed in the operator’s manual, if available.
15. Alert all persons in the work area of intended work activities and hazards.

Safe Operating Instructions

Prior to and during Operation of an Industrial Lift Truck, every Operator must:

1. Securely fasten their seat belt if the Lift Truck has an ROPS.
2. Where possible, avoid operating the Lift Truck near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Never permit others to ride the Lift Truck.
6. Operate the Lift Truck smoothly and safely, i.e., no jerky turns starts, stops, stunt-driving or horseplay.
7. Hitch only to the drawbar and hitch points recommended by the Lift Truck manufacturer.
8. Set brakes securely and use park lock if available when the Lift Truck is stopped.
9. If a truck must be left unattended for a period of time, shut the vehicle off and remove the ignition keys.

Securing the Load and Conducting the Lift/Carry

1. Always place the load against the backrest to help stabilize the load.
2. Always place the larger or heaviest part of the load closest to the backrest.
3. When carrying wide loads such as lumber or steel, adjust the forks as wide as possible.
4. Use ropes or straps to secure the load, but only attach to the Backrest Extension or Apron Carriage.
5. Use clamps or wood blocks to keep round objects such as pipes from rolling during transport.
6. Use shrink wrap or tape as needed to secure items stacked on pallets.
7. Always evaluate the situation before making an unusual lift.
8. If the load is too large to see around, always drive in reverse.
9. Never allow a person to walk or stand between the Lift Truck/load and another object.
10. Always carry the load as low as possible and watch for overhead obstructions.
11. Always honk the horn at intersections, blind spots, corners, or where pedestrians are nearby.

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## Attachment 8 - Pre-operation Inspection Checklist (Electric Powered Forklifts)

### ELECTRIC INDUSTRIAL LIFT/FORKLIFT TRUCK

<table>
<thead>
<tr>
<th>Work Forklift Truck MFG</th>
<th>Model</th>
<th>Serial Number</th>
<th>Shift</th>
</tr>
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<table>
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<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
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<tbody>
<tr>
<td>Overhead guard</td>
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<td>Hydraulic cylinders</td>
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<td>Mast assembly</td>
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<td>Lift chains and rollers</td>
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<td>Forks</td>
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<td>Tires (Front psi/Rear psi)</td>
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<tr>
<td>Examine the battery &amp; fire extinguisher</td>
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<tr>
<td>Check the hydraulic fluid level</td>
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<th>Tuesday</th>
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</thead>
<tbody>
<tr>
<td>Check the gauges</td>
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<tr>
<td>Battery discharge indicator</td>
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<tr>
<td>Test the standard equipment</td>
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<tr>
<td>Steering</td>
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<td>Brakes</td>
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<td>Front, tail, and brake lights</td>
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<td>Safety seat (including seatbelt)</td>
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<tr>
<td>Operation of attachments</td>
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</tbody>
</table>

Starting Hour Meter Reading >>>>>

Pre-inspection date >>>>>

Operator’s printed name >>>>>

Instructions: Operator must check off each item as having been checked “OK” and safe to use during daily inspection prior to operation.
Site Assessment and Vehicle Safety Inspection

Prior to start of the workday, work-shift, or new material handling task, every industrial truck Operator must:

1. Conduct, document and keep on file a completed vehicle safety inspection form.
2. If the Lift Truck is found to be unsafe during daily inspection, report this immediately to a supervisor or mechanic and do not use the Lift Truck until it has been repaired and made safe. Lock/Tag out the Lift Truck in compliance with UC Berkeley's Energy Isolation Program as needed determines.
3. Complete any maintenance that the operator is required to perform.
4. Review work area for hazards, and remove/control them prior to operation.
5. Only use a truck designed to safely work in observed work-area conditions.
6. Review operating instructions, limitations, warnings, and precautions for the vehicle.
7. Remember the differences between the lift-truck drive-train/steering and an automobile.
8. Review controls and instrumentation. Where are they located, what do they do, and how do they work?
9. Review engine or motor operation, as well as steering and maneuvering.
10. Become familiar with visibility (including restrictions due to loading and truck components).
11. Review fork and attachment adaptation, operation, and use limitations.
12. Review vehicle capacity and vehicle stability.
13. Check fuel or charge of batteries, and refuel/recharge as needed.
14. Review operating instructions, warnings, or precautions listed in the operator's manual, if available.
15. Alert all persons in the work area of intended work activities and hazards.

Safe Operating Instructions

Prior to and during Operation of an Industrial Lift Truck, every Operator must:

1. Securely fasten their seat belt if the Lift Truck has an ROPS.
2. Where possible, avoid operating the Lift Truck near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Never permit others to ride the Lift Truck.
6. Operate the Lift Truck smoothly and safely, i.e., no jerky turns starts, stops, stunt-driving or horseplay.
7. Hitch only to the drawbar and hitch points recommended by the Lift Truck manufacturer.
8. Set brakes securely and use park lock if available when the Lift Truck is stopped.
9. If a truck must be left unattended for a period of time, shut the vehicle off and remove the ignition keys.

Securing the Load and Conducting the Lift/Carry

1. Always place the load against the backrest to help stabilize the load.
2. Always place the larger or heaviest part of the load closest to the backrest.
3. When carrying wide loads such as lumber or steel, adjust the forks as wide as possible.
4. Use ropes or straps to secure the load, but only attach to the Backrest Extension or Apron Carriage.
5. Use clamps or wood blocks to keep round objects such as pipes from rolling during transport.
6. Use shrink wrap or tape as needed to secure items stacked on pallets.
7. Always evaluate the situation before making an unusual lift.
8. If the load is too large to see around, always drive in reverse.
9. Never allow a person to walk or stand between the Lift Truck/load and another object.
10. Always carry the load as low as possible and watch for overhead obstructions.
11. Always honk the horn at intersections, blind spots, corners, or where pedestrians are nearby.
## Pre-operation Inspection Checklist (Narrow Aisle Truck & Order Pickers)

### Narrow Aisle Truck

<table>
<thead>
<tr>
<th>Forklift Truck MFG</th>
<th>Model</th>
<th>Serial Number</th>
<th>Work Shift</th>
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<table>
<thead>
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<th>Tuesday</th>
<th>Wednesday</th>
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<th>Friday</th>
<th>Saturday</th>
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<tr>
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<td>Mast assembly</td>
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<td>Overhead Guard</td>
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<td>Lift chains and rollers</td>
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<td>Forks</td>
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<td>Tires / Rollers</td>
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<td>Examine the battery &amp; fire extinguisher</td>
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<td>Check the hydraulic fluid level</td>
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<tr>
<td>Safety Harness &amp; Lanyard (if Order Picker)</td>
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<th>Saturday</th>
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<tbody>
<tr>
<td>Check the gauges</td>
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<td>Test the standard equipment</td>
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<td>Test floor safety / power pedal</td>
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<td>Horn</td>
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<tr>
<td>Operation of attachments</td>
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<tr>
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</table>

Instructions: Operator must check off each item as having been checked “OK” and safe to use during daily inspection prior to operation.
Site Assessment and Vehicle Safety Inspection

Prior to start of workday, work-shift, or new material handling task, every industrial truck operator must:

1. Conduct, document and keep on file a completed vehicle safety inspection form.
2. If the Lift Truck is found to be unsafe during daily inspection, report this immediately to a supervisor or mechanic and do not use the Lift Truck until it has been repaired and made safe. Lock/Tag out the Lift Truck in compliance with UC Berkeley’s Energy Isolation Program as need determines.
3. Complete any maintenance that the operator is required to perform.
4. Review work area for hazards, and remove/control them prior to operation.
5. Only use a truck designed to safely work in work-area conditions observed.
6. Review operating instructions, limitations, warnings, and precautions for the vehicle.
7. Remember the differences between the lift-truck drive-train/steering and an automobile.
8. Review controls and instrumentation. Where are they located, what do they do, and how do they work?
9. Review engine or motor operation, as well as steering and maneuvering.
10. Become familiar with visibility (including restrictions due to loading and truck components).
11. Review fork and attachment adaptation, operation, and use limitations.
12. Review vehicle capacity and vehicle stability.
13. Check fuel or charge of batteries, and refuel/recharge as needed.
14. Review operating instructions, warnings, or precautions listed in the operator’s manual, if available.
15. Alert all persons in the work area of intended work activities and hazards.

Safe Operating Instructions

Prior to and during Operation of an Industrial Lift Truck, every Operator must:

1. Securely fasten their seat belt if the Lift Truck has an ROPS.
2. Where possible, avoid operating the Lift Truck near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Never permit others to ride the Lift Truck.
6. Operate the Lift Truck smoothly and safely, i.e., no jerky turns starts, stops, stunt-driving or horseplay.
7. Hitch only to the drawbar and hitch points recommended by the Lift Truck manufacturer.
8. Set brakes securely and use park lock if available when the Lift Truck is stopped.
9. If a truck must be left unattended for a period of time, shut the vehicle off and remove the ignition keys.

Securing the Load and Conducting the Lift/Carry

1. Always place the load against the backrest to help stabilize the load.
2. Always place the larger or heaviest part of the load closest to the backrest.
3. When carrying wide loads such as lumber or steel, adjust the forks as wide as possible.
4. Use ropes or straps to secure the load, but only attach to the Backrest Extension or Apron Carriage.
5. Use clamps or wood blocks to keep round objects such as pipes from rolling during transport.
6. Use shrink wrap or tape as needed to secure items stacked on pallets.
7. Always evaluate the situation before making an unusual lift.
8. If the load is too large to see around, always drive in reverse.
9. Never allow a person to walk or stand between the Lift Truck/load and another object.
10. Always carry the load as low as possible and watch for overhead obstructions.
11. Always honk the horn at intersections, blind spots, corners, or where pedestrians are nearby.

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## Attachment 10 - Pre-operation Inspection Checklist (Petibone & and Rough Terrain Vehicles)

**PETIBONE**

<table>
<thead>
<tr>
<th>Forklift Truck MFG</th>
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<th>Work Shift</th>
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<td></td>
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<td>Monday</td>
<td>Tuesday</td>
<td>Wednesday</td>
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<tr>
<td>KEY OFF Procedures</td>
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<tr>
<td>Overhead guard</td>
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<tr>
<td>Hydraulic cylinders</td>
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<tr>
<td>Mast assembly</td>
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<tr>
<td>Lift chains and rollers</td>
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<tr>
<td>Forks</td>
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<tr>
<td>Tires (Front psi/Rear psi)</td>
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<tr>
<td>Fuel System Fittings/Levels / Gages</td>
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<tr>
<td>Examine the battery &amp; fire extinguisher</td>
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<tr>
<td>Check the engine/Trans oil level</td>
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<tr>
<td>Check the hydraulic fluid level</td>
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<tr>
<td>Check the engine coolant level</td>
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<td>KEY ON Procedures</td>
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<tr>
<td>Check the gauges</td>
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<tr>
<td>Hour meter</td>
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<td>Test the standard equipment</td>
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<tr>
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<td>Brakes</td>
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<td>Front, tail, and brake lights</td>
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<td>Horn</td>
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<tr>
<td>Safety seat (including seatbelt)</td>
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<td>Operation of attachments</td>
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<td>Starting Hour Meter Reading &gt;&gt;&gt;&gt;&gt;</td>
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</tbody>
</table>

Instructions: Operator must check off each item as having been checked “OK” and safe to use during daily inspection prior to operation.
Site Assessment and Vehicle Safety Inspection

Prior to start of workday, work-shift, or new material handling task, every industrial truck operator must:
1. Conduct, document and keep on file a completed vehicle safety inspection form.
2. If the Lift Truck is found to be unsafe during daily inspection, report this immediately to a supervisor or mechanic and do not use the Lift Truck until it has been repaired and made safe. Lock/Tag out the Lift Truck in compliance with UC Berkeley’s Energy Isolation Program as need determines.
3. Complete any maintenance that the operator is required to perform.
4. Review work area for hazards, and remove/control them prior to operation.
5. Only use a truck designed to safely work in work-area conditions observed.
6. Review operating instructions, limitations, warnings, and precautions for the vehicle.
7. Remember the differences between the lift-truck drive-train/steering and an automobile.
8. Review controls and instrumentation. Where are they located, what do they do, and how do they work?
9. Review engine or motor operation, as well as steering and maneuvering.
10. Become familiar with visibility (including restrictions due to loading and truck components).
11. Review fork and attachment adaptation, operation, and use limitations.
12. Review vehicle capacity and vehicle stability.
13. Check fuel or charge of batteries, and refuel/recharge as needed.
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Safe Operating Instructions

Prior to and during Operation of an Industrial Lift Truck, every Operator must:
1. Securely fasten their seat belt if the Lift Truck has an ROPS.
2. Where possible, avoid operating the Lift Truck near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Never permit others to ride the Lift Truck.
6. Operate the Lift Truck smoothly and safely, i.e., no jerky turns starts, stops, stunt-driving or horseplay.
7. Set brakes securely and use park lock if available when the Lift Truck is stopped.
8. If a truck must be left unattended for a period of time, shut the vehicle off and remove the ignition keys.

Securing the Load and Conducting the Lift/Carry

1. Always place the load against the backrest to help stabilize the load.
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3. When carrying wide loads such as lumber or steel, adjust the forks as wide a possible.
4. Use ropes or straps to secure the load, but only attach to the Backrest Extension or Apron Carriage.
5. Use clamps or wood blocks to keep round objects such as pipes from rolling during transport.
6. Use shrink wrap or tape as needed to secure items stacked on pallets.
7. Always evaluate the situation before making an unusual lift.
8. If the load is too large to see around, always drive in reverse.
9. Never allow a person to walk or stand between the Lift Truck/load and another object.
10. Always carry the load as low as possible and watch for overhead obstructions.
11. Always honk the horn at intersections, blind spots, corners, or where pedestrians are nearby.

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 Attachment 11 - On-Line Forklift Safety Training Instructions

Forklift Safety Training requires an online „classroom” training followed by an in-person hands-on training. To complete your training, follow the steps in the training process as outlined on this form. It’s suggested you read this entire form before you begin.

Step 1) Please fill out your personal information below, keep a print copy for your records, and email the completed form with the areas filled out to:

 ehs@berkeley.edu

 Name: __________________________
 Employee/Student ID #: __________________________ (Please “DO NOT” use your social security #)
 Certificate Name: __________________________
 Department: __________________________
 Campus Address: __________________________
 Campus phone#: __________________________
 Job title: __________________________
 Supervisor Name: __________________________
 Supervisors phone #: __________________________
 What type of forklift(s) will you be using? __________________________

Step 2) Go to this link, and follow the step by step instructions that will guide you through the training and quiz:

 http://www.free-training.com/osha/forklift/forkmenu.htm

 ***When filling in the fields on the on-line form, it will ask for your name and ID or Social Security Number. To assure your personal privacy “DO NOT” enter your SSN for any reason.

 When asked to enter in your email address, it is necessary for you to enter my email address (ehs@berkeley.edu) so your test results are sent electronically to me. I cannot accept hard-copy results of your quiz.

Step 3) After I receive the electronic results of your completed quiz, I will either phone or email you to schedule you for a hands-on training at your worksite or location. Following the satisfactory On-Line and Hands-on operating skills Training / Assessment, you will be issued a certificate of completion and a laminated “UC Berkeley Industrial Equipment Operators License” to the address you provided.

 If you have any questions or assistance please call (510) 642-3073.

 Thank you!
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**FAQ / Fact Sheet Table of Contents**

[Click on any question in the FAQ / Fact Sheet “Table of Contents” to be taken to the answer.]

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What is Industrial Lift / Forklift Equipment?

Forklift / Industrial Lift Truck equipment is used primarily to move palletized materials and equipment from one location to another. They may be used indoors or outdoors and for any purpose when materials must be moved, loaded, unloaded, stored on racks in an elevated location, etc... There are many different kinds of Forklift / Industrial Lift Truck equipment and are selected and used based upon work need and site conditions. All are self-propelled, but some such as a Pallet Jack or Walkie-Stacker are operated while walking behind the equipment. Power sources for the equipment include plug-in electric recharge of on-board battery packs, propane, gasoline, diesel fuel, dual-power units, etc…. Common kinds of Forklift / Industrial Lift Truck equipment include Pallet Trucks, Walkie-Stackers, Common Forklifts, Order Pickers, Peti-Bones, Rough Terrain Trucks, etc…

When is the Industrial Lift Truck Safety Program required, and who implements it?

Departments that own, lease, rent or otherwise operate Forklift / Industrial Lift Truck equipment must implement this program into their business / research operations to comply with Cal-OSHA and other regulatory requirements. The following actions assure complete implementation:

1. Train and license personnel who operate their equipment,
2. Conduct pre-operation safety inspections and preventive maintenance of the equipment,
3. Assure equipment operators adhere to specific safe-work practices whenever using these types of powered industrial equipment, and
4. Approve use of Forklift / Industrial Lift Truck equipment by Contractors / Vendors hired by the Department on Department-controlled property.

What do we have to do if Contractors we hire use Industrial Lift Truck equipment?

Departments hiring contractors are NOT responsible to assure the contractor’s compliance with the UC Berkeley Forklift / Industrial Lift Truck Safety Program. However, Contractor or Vendor employees that have been trained under their company’s Forklift / Industrial Lift Truck Safety program, and have a UC Berkeley Department’s permission, may operate Forklift / Industrial Lift Truck equipment owned/leased/rented by their employer on UC Berkeley premises. Contractors who use Forklift / Industrial Lift Truck equipment that is owned and/or rented/leased by a UC Berkeley Department must demonstrate to the Department’s DSC or Responsible Person their current licensure for operation of the specific type of Forklift / Industrial Lift Truck equipment before they are allowed to operate the UC Berkeley owned / leased / rented equipment. Whether the operator is a vendor or contractor, they may be required to show verification that they have been trained and licensed on the specific Forklift / Industrial Lift Truck equipment being operated by any UC Berkeley Department representative. If contractor / vendor employees are found to be unlicensed, all work using the Forklift / Industrial Lift Truck equipment must stop immediately until properly licensed personnel are present to operate the equipment.
If I purchase or lease Forklift / Industrial Lift Truck equipment, what do I have to do?
Department Management is responsible for selecting, renting/leasing/owning and maintaining the Forklift / Industrial Lift Truck equipment and must designate the person(s) responsible for implementing the following program requirements:

- Identify and evaluate Forklift / Industrial Lift Truck Equipment Requirements and Site Hazards
- Inventory and inspect Department Forklift / Industrial Lift Truck Equipment using program documentation
- Identify Department Personnel requiring Forklift / Industrial Lift Truck Equipment training
- Assure Training/Qualification/Retraining and Licensure of selected Department Personnel
- Assure Department Operators are following Forklift / Industrial Lift Truck Program Operator safe work practices and procedures
- Maintain Records of program implementation and training / licensure.

Who may use Industrial Lift Truck equipment and what training is required?
Each Operator must successfully complete Operator Safety Training prior to operating Forklift / Industrial Lift Truck equipment on UCB property. Training is provided by EH&S. Depending upon the type of Forklift / Industrial Lift Truck equipment used, Fall Protection gear may need to be worn by the operator. Additional “Fall Protection Training” may be required if this type of gear must be worn.

Who should be trained and licensed to operate Industrial Lift Truck equipment?
Anyone in the owner Department who has the work-need to operate a piece of Forklift / Industrial Lift Truck equipment must be trained and licensed prior to allowing them to operate the Department’s Forklift / Industrial Lift Truck equipment. Licensure is good for three (3) years. Operators must attend and successfully complete a “retraining” within 90 days of the end of the 3-year licensure cycle to start the clock on the next 3-year cycle.

Can I operate any type of Industrial Lift Truck equipment once I’ve been trained and licensed?
No. Operators may only operate the Forklift / Industrial Lift Truck equipment type they have been trained and licensed to operate. Different types of Forklift / Industrial Lift Truck equipment require a separate training and license to operate. Forklift / Industrial Lift Truck equipment may be operated by unlicensed operators only when under the direct supervision of persons who have the knowledge, training and experience to train operators and evaluate their competence “in the field”.

What’s involved in training and licensing personnel using Industrial Lift Truck equipment?
Training is “two-part” and consists of a combination of written, classroom and/or interactive computer learning, followed by hands-on “field” training and documented testing that’s specific to the Forklift / Industrial Lift Truck equipment. Both sections of training are documented to record successful completion of that portion of the training. Once training is successfully completed, a
license to operate the specific Forklift / Industrial Lift Truck equipment is issued and must be
carried by the operator when using the equipment. Licensure is good for three (3) years from the
date of successful completion of training.

What kind of training / licensure does the Contractor I’ve hired need to use a UCB
rented/leased/owned Industrial Lift Truck?
Contractors who are hired by the Department and who must use a UC Berkeley
rented/leased/owned Forklift / Industrial Lift Truck must be trained / licensed under the UC
Berkeley training / licensing program and issued a UC Berkeley Operator License before they can
operate the equipment rented/leased/owned by UC Berkeley. Departments that find they must put
a Contractor through this training / licensure process are required to alert EH&S of the need for the
Contractor’s training / licensure and arrange for this training / licensure to occur prior to allowing
the Contractor to use the Department’s equipment.

What are the safe-work procedures for using Industrial Lift Truck equipment?
Safe work practices for the use of any type of Forklift / Industrial Lift Truck equipment are detailed
in the program and associated training content, and include the following:
- Assessment of Forklift / Industrial Lift Truck equipment selection and a documented “Site
  Hazard Evaluation”,
- Documented Pre-Operation Equipment Inspection with determination if fall protection PPE
  and other gear must be worn during work aloft,
- Implementing an “Equipment Tag Out” notification procedure for repair when deficiencies in
  the equipment are discovered,
- Following specific operating practices and procedures, hazard identification and controls
  when operating Forklift / Industrial Lift Truck equipment.

Does a pre-operation inspection need to be documented for each work-shift?
Yes. It’s required by law and makes good sense as equipment and site conditions can change, and
unrecognized hazards develop, without the operator’s knowledge unless a pre-operation
inspection is completed. This equipment is often shared by multiple operators in a 24 hour period
and the inspection assures the operator that the equipment they are about to use is safe to use,
and alerts them to hazards in the work area. The documentation associated with the inspection
assures that a systematic approach to hazard recognition is taken, and that Departments are
complying with legal requirements.

Are there checklists that can be used to document pre-operation inspections?
Yes. Attachments 5 - 10 of the Forklift / Industrial Lift Truck Safety Program are customized by
equipment type and used as Pre-Operation Checklists by Operators when conducting their
equipment inspections and site hazard evaluation.

What do I do if I find an equipment deficiency or newly recognized hazard?
This depends upon the nature of the hazard or the deficiency. If the equipment deficiency can be
corrected by the operator without causing them or the work site harm (for example, refueling the lift
prior to use), then the operator corrects the deficiency and proceeds to use the equipment. If the deficiency cannot be repaired by the operator, then the operator follows an “Equipment Tag Out” procedure to alert others of the deficient condition, alerts their Supervisor of the deficient condition to arrange for repair, and does not use the equipment until the condition has been corrected.

If a hazard in the work-site is identified (for example, soft ground due to a recent rain storm), then the operator must conduct an assessment of the hazard, implement control measures (for example, install steel support plates on the ground), determine if the Forklift / Industrial Lift Truck equipment is appropriate to use at the work-site, or if a different type of Forklift / Industrial Lift Truck equipment or other work-method is needed.

What kinds of records should my Department keep to assure program compliance?

Recordkeeping requirements are detailed under that section of the Forklift / Industrial Lift Truck program, and include an inventory of Department owned equipment, a list of currently-licensed Forklift / Industrial Lift Truck Operators employed by the Department, inspection records, rental / lease / purchase agreements, etc.…

What regulations govern the requirements of this program?

Regulations that govern the need for and requirements of the Forklift / Industrial Lift Truck Safety Program include Cal-OSHA, US-DOT and other regulations. A list of these regulations with links to their specific content is included in the References Section of the Forklift / Industrial Lift Truck Program.

How do I get help with implementing this program in my Department?

Contact EH&S at 642-3073 for questions and help on implementing this program in your Department.