

UC SAFETY SPOTLIGHT

A UC Systemwide Publication of
the Environment, Health & Safety
Leadership Council



MARCH 2017

Mobile Equipment
(fork lifts, aerial lifts, tractors)

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POSTER OF THE MONTH

MONTHLY UC SAFETY SPOTLIGHT
Poster of the Month
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POWERED INDUSTRIAL TRUCKS

A SAMPLE GENERIC CHECKLIST

- Mast Assembly** - Inspect for damage or wear, check for proper alignment.
- Hydraulic Cylinders** - Inspect for leaks, check for proper operation.
- Safety Seat** - Inspect for damage, ensure proper operation.
- Seat Belts** - Inspect for damage, ensure proper operation.
- Forks** - Inspect for damage, ensure proper operation.
- Load Handling** - Inspect for damage, ensure proper operation.
- Brakes** - Inspect for damage, ensure proper operation.
- Overhead Guard** - Inspect for damage, ensure proper operation.
- Steering** - Inspect for damage, ensure proper operation.
- Horn** - Inspect for damage, ensure proper operation.
- Battery Check** - Inspect for damage, ensure proper operation.
- Lights** - Inspect for damage, ensure proper operation.
- Tires** - Inspect for damage, ensure proper operation.

ADDITIONAL CHECKLIST ITEMS

- Lifting Operations** - Inspect for damage, ensure proper operation.
- Pre-use Inspection** - Inspect for damage, ensure proper operation.
- Safety Training** - Inspect for damage, ensure proper operation.

Safety for Forklift Operations

By John M. Seaman, CSMP

Forklifts are one of the most useful types of powered equipment that are operated on a daily basis, and within a wide variety of applications. Throughout the University of California system they can be seen in shipping & receiving, facility maintenance, furniture services, shops, agricultural & reserves, and academic departments. They can also be one of the most dangerous pieces of equipment when used improperly or by an inadequately trained operator.

According to OSHA statistics, there are an average of 260 forklift-related injuries every day in the United States. Additionally, every two weeks a person dies in a forklift-related incident. Twenty-five percent of these injury incidents are the direct result of inadequate operator training. The three most common of forklift injuries are: a) forklift overturn, b) workers struck by forklift, and c) falls from forklifts. Each one of these types of incidents involve some form of operator error such as speeding, turning too sharply, or using the forklift in a manner that is unsafe. ([Read More](#))

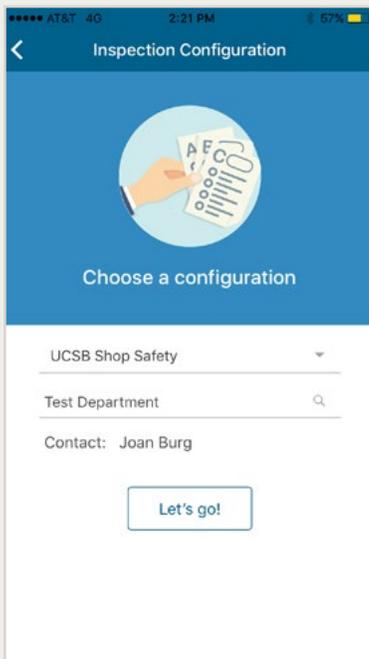
Tool Tethers

By Tracy Stark

When working at an elevated height, workers need to not only protect themselves from falling, but also protect those working below from falling or dropped objects. OSHA states that there are over 52,000 dropped object incidents each year. That means every 10 minutes a worker is struck by something that should have been secured. This hazard is definitely an issue in performing arts spaces where working at an elevated height happens daily. Most of this work requires tools and materials. It may not seem like a big problem to have an unsecured tape measure on a catwalk 25' in the air, but even something this small can cause serious damage and injuries. ([Read More](#))

UC INSPECT APP FOR SPECIALIZED EQUIPMENT OPERATIONS

“The UC Inspect App provides an intuitive tool that can be easily used by forklift and aerial work platform operators and their supervisors to conduct and document OSHA required daily pre-use inspections. The tool allows operators to select the appropriate checklist for the type of equipment they are operating via smart phone or tablet. Once completed, a copy of the inspection is sent to the cloud, the appropriate supervisor, and to EH&S. This eliminates bulky storage of paper records, which is directly in-sync with UC Sustainability goals. The dashboard provides managers/supervisors and EH&S with the ability to track and review completed inspections.”



“In a nutshell, the UC Inspect App simplifies the inspection process, increases accountability, and provides a sustainable way to document and store required records.”

– John M. Seaman, CSMP, General Safety Manager, UC Santa Barbara

Safety for Forklift Operations

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Federal and state training requirements and rules of operation for forklift operators are located in **29 CFR 1910.178(I)** and **CCR Title 8 Section 3668. Powered Industrial Truck Operator Training**. Each of these regulations clearly outline what subject areas operators need to receive training on, how frequently training is required, how training must be verified/documented, and what the requirements (skills/experience/certifications) are to be recognized as a forklift safety trainer. Initial training is required *prior* to operators being authorized to operate a forklift. Refresher training is required for all trained operators every three years. Both types of training require classroom instruction *and* a “hands-on” operator skills evaluation conducted by the trainer/evaluator. Additionally, operators must receive familiarization training prior to operating a new or different type of forklift than what they were initially trained on. How important is it for operators to receive thorough training and a “hands-on” skills evaluation? According to OSHA, operator performance scores *increase by 61%* after completing a comprehensive forklift operator safety training course.

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There are other contributors to increased forklift operations safety. These include proper maintenance and inspections, safety warning devices, fuel/power types, and operational environment. Forklifts are required to be inspected at minimum on a daily basis prior to operation. These inspections must be documented in writing. Any deficiencies noted regarding steering, brakes, horn, seatbelt, tires, or fuel/power source must result in placing the lift immediately into non-operational status. The work unit supervisor should be notified, and a repair order should be initiated. Regularly scheduled maintenance is required and can only be conducted by a trained forklift mechanic. Contracting with a vendor to perform quarterly and annual forklift maintenance and inspections is highly recommended.

Safety warning devices such as automatic back-up alarms, rotating/flashing beacon lights, and horns help to alert pedestrians, vehicles, and other equipment operators that they are in an area where a potential hazard exists. Finally, when selecting or purchasing a forklift, it is very important to match the forklift to the task and operational environment. Smaller, battery-powered forklifts would not be good in a construction environment due to their smaller tires and limited lifting capacity. Similarly you would not want to use a rough-terrain forklift in a warehouse, due to its larger size and exhaust emissions.

As you can see, forklift operations and safety are a complex and challenging subject area that requires extensive planning, training and oversight. Hopefully this article will help you to understand and address these challenges at your campus or university facility.

Tool Tethers

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There is an excellent online resource for free training and awareness materials at dropsonline.org. They have a drop calculator excel sheet you can download to calculate the force of an object when falling from a specified height. A 1-pound object falling from 25' will probably not severely injure someone unless it is pointed, but a 3-pound object from the same height can severely injure someone and require a trip to the hospital. Most hand tools are about 1 pound or less, but a cordless drill is about 3 pounds. This is why tool tethering should be part of all working at heights programs.

Tool tethering in theater used to consist of tying a piece of cotton cord on your adjustable wrench when you went to the catwalk to focus lighting instruments. Clever folks sometimes used phone cords with a snap hook, but, it is already expected that theater technicians should be tying off tools. Today it is a best practice to buy rated tool tethers, especially for heavier tools.

The most important thing to remember when buying tethers is to make sure it has a weight rating. You have to make sure the tether can hold the weight of the tool you are using. When working at an elevated height, small parts should always be carried in a parts bag or load bucket. 5 gallon buckets should not be used to carry items at height. If a bucket is dropped or knocked over it can be a real problem. [3m DBI Sala](#) is one brand that offers a wide range of rated tethering products. They also have really clever parts bags and load buckets that self close and will not spill when shaken upside down. [Ergodyne](#) is also making similar products and there are a number of others out there. Take the time to do a quick hazard analysis of the work that takes place and identify best practice and equipment to prevent falling objects and serious injuries.

Nine Rules for Tractor Operators

By: University of California Division of Agricultural & Natural Resources, EH&S

General Industry Safety Order Title 8 Section 3664

1. Securely fasten your seat belt if the tractor has a roll-over protective structure.
2. Where possible, avoid operating the tractor near ditches, holes and embankments.
3. Reduce speed when turning, crossing slopes, and on rough, slick or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going, especially at row ends, on roads and around trees.
6. Do not permit others to ride on tractors.
7. Operate the tractor smoothly – no jerky turns, starts or stops.
8. Hitch only the drawbar and hitch points recommended by tractor manufacturers.
9. When the tractor is stopped, set brakes securely and use park lock if available.

Every employee who operates an agricultural or industrial tractor shall be informed of these operating instructions and of any other practices dictated by the work environment. Such information shall be provided at the time of initial assignment and at least annually thereafter. Copies of these instructions, printed in a language understood by the majority of the employees, shall be conspicuous posted at a place frequented by the drivers.



CONNECT

Know where to turn on your UC campus for the information you need to keep yourself, your workplace and your environment safe and secure. Click on the campus links below to connect to local program, educational and informational resources.

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[UCLA](#) • [UC Merced](#) • [UC Riverside](#)
[UC San Diego](#) • [UC San Francisco](#)
[UC Santa Barbara](#) • [UC Santa Cruz](#)
[UCOP](#) • [UC ANR](#)

RESOURCES

- [Operating Rules for Industrial Trucks \(English\)](#)
- [Operating Rules for Industrial Trucks \(Spanish\)](#)
- [General Industry Safety Orders](#)
- [Occupational Safety Health Standards](#)
- [Powered Industrial Trucks \(Forklift\) eTool](#)
- [Forklift Training for Lift Truck Operators](#)
- [Tractor Pre-Use Checklist](#)



FEEDBACK PLEASE

Send an email to safetyspotlight@ucdavis.edu to submit your comments on the February issue or to suggest content ideas for future issues. We look forward to hearing from you!

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