

Welcome to *The Hard Hat Training Series*



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Today you will learn about the safe operation of carry deck crane. We will strive to provide information that will increase your knowledge and help make you a better operator.



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In our highly mechanized world, cranes are the workhorses that have increased the economic growth and productivity in construction, mining, logging, maritime, production and service facilities. It is not uncommon while driving in urban areas to see carry deck cranes, tower cranes, and maritime cranes performing a wide variety of jobs.





Cranes are versatile machines that can be used for many job applications, from loading and unloading materials to placing those materials or personnel up to heights hundreds of feet high. Many are mounted on truck beds and can move between job sites at highway speeds carrying payloads in excess of 1500 pounds.



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Cranes come in all sizes. From large all terrain cranes used to lift loads in excess of 75 tons to small capacity utility truck cranes used for lifting much smaller loads, training is needed to ensure safe operation and productivity.

During today's training we will be focusing on carry deck cranes, we will cover the anatomy of the crane and stress the importance of inspecting it each day before it is put into service.



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We will look at the crane's stability, the importance of knowing the machine's capacity and understanding the load chart for each lift. We will also discuss safe operating and load handling principles, and briefly cover refueling.



We will discuss the safety considerations of properly setting up the crane and the importance of good communication on the job site and the hand signals for carry deck cranes.



Electrocution



Outrigger Hazards/Overloading



Two-blocking

Hoisting Personell/
Riding the Load

Obstruction of Vision



Poor Rigging/Signals



Lastly, we will introduce some of the most common hazards associated with crane operation and show you how to recognize, avoid or minimize them.





Upon completion of this training, you should be more familiar with the carry deck cranes used by your company, have an increased knowledge of how to set-up and safely operate them, and be able to recognize the common hazards that surround their use.



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Training

No matter the equipment, it is common to hear workers and even employers ask 'where does it state operators need to be trained?' Can't an operator also be deemed "qualified" based on experience? First, 29 CFR 1926.21(b)(2), the employer responsibility section on safety training and education for the construction industry, states that "the employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury."



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Confusion and even false justification often surface due to 1926.20(b)(4) in the General Safety and Health Provision, which states “the employer shall permit only those employees qualified by training *or* experience to operate equipment and machinery.”

So there appears to be a conflict: one says training is a must, the other says it’s an option. Generally speaking, in the case that two standards or differing organizations (OSHA, ASME/ANSI, SAE) contradict each other, it is always best to follow the stricter of the two rules.



Ultimately, in the case of an accident, OSHA will want to see proof of training. If you cannot furnish that proof and can, instead, only offer up that the worker came into the job with 20 years of experience, you'll most likely be in trouble. Experience may qualify an operator, but very rarely will experience alone suffice. A history of operating for any given amount of time does not necessarily mean the operator knows how to operate safely and competently.



Did you know?

OSHA 1926.20(f)(2) states that the employer:

“must train each affected employee in the manner required by the standard, and each failure to train an employee may be considered a separate violation.”



Bad habits are easily passed from one worker and one site to another, all in the name of “experience.” Can you think of a particular time—in or outside of construction—where you did something a certain way for years only to discover that you had been doing it wrong the whole time? In this case, as in all cases, in our experience, training will only help. It can reinforce and enhance the good experience while addressing and correcting the bad habits from misguided experience.



Have you heard?

The story of the woman who got in a fight with her husband because she believed “you” were supposed to cut the ends of the ham off before cooking it. Her mom had done it that way for years. Her husband argued it was a waste. Turns out her mom cut the ends off only so it would fit into their smaller pan.



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Did you know?

OSHA Regulations specify that an operator **must** take a refresher course if any of the following apply:

- The operator is observed operating the equipment in an **unsafe** manner (e.g., no seat belt, reckless driving, etc.)
- The operator is involved in an **accident** **or** a **near miss**
- The operator received a **poor evaluation** for performance
- The operator is required to **use a different type of machine** **or** **attachment**
- Workplace conditions have changed

Additionally, 1926.64(g)(2) states that “The employer...shall determine the appropriate frequency of refresher training.”

In line with OSHA requirements, anyone who operates heavy equipment must receive training prior to operating the machine on their own. As noted above, OSHA requirements for refresher training are also very specific.



Additionally, controls for cranes can vary widely from brand to brand. If you've always operated a certain manufacturer's crane and then are asked to operate a crane from a different manufacturer, you will most likely need to receive and document additional training regarding the specifics of the crane you are being introduced to.

The same goes for attachments and changes in work site conditions. If you've never used a jib or a suspended man-basket attachment, but the need arises, you will need to be instructed on safe use and potential hazards. Also, if you've always operated on a construction site, but are asked to operate in a warehouse or on a dock over water, these changes, too, will require some additional training.





OSHA®

When it comes to refresher training, OSHA's standard in some instances (like forklifts) are very specific: operators must be re-evaluated every three years to see if they are still competent to operate the equipment. Best practices say to apply this same rule to all types of equipment. A so-called "free-pass" cannot be awarded based on experience, age, or time on the job. The extent of the evaluation is to be determined by the employer, but should include a written and practical examination that prove continued competency.



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Initial training, as well as any evaluations or refresher courses must be documented with the name of the person or persons who taught the class or conducted the evaluation. Although OSHA doesn't require wallet cards as proof of training, many companies and worksites do require onsite proof that you have been trained. At the very least, in the case of an investigation, OSHA will want to see proof of proper and consistent training (in the way of training outlines, class lists, training goals, tests, certificates, etc.)

STANDARDS

29 CFR 1926.180 - Crawler, Locomotive and Truck cranes

29 CFR 1926.1400 - Cranes and Derricks

ASME B30.5 - Mobile and locomotive cranes

ASME B30.22 Articulating boom cranes

Standards

These are some of the main standards concerning cranes and material hoists. Of course, states and cities have additional standards, as do some industries such as maritime, mining and offshore oil platforms.

We have provided these as a guide, but it's your responsibility to know all federal, state, local and company rules that apply to your machine and job site.



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Equipment operators also share in the responsibility to ensure they and their co-workers have:

- Received training by a qualified person.
- Read and understood the manufacturer's operating instructions and safety rules as found in the operator's manual.
- Read and understood all decals, warnings, and capacity plates on the machine and attachments.
- Performed a thorough pre-shift inspection each day prior to operating the machine.



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