



# Cranes: Part #1

The U.S. Bureau of Labor Statistics (BLS) estimates that around 44 people die in crane-related accidents each year. Improper crane assembly is a major cause of boom collapses, which lead to crane accidents. Just over half of all fatal crane injuries involved the worker being struck by the boom or the load. Contact with power lines is also a major hazard for all employees.

## STATIC CRANES:

1. These cranes are to be used in a single space and move things along a predetermined path.
2. They can also be anchored directly to the ground.
3. They can be attached to the roof or side of a structure.
4. In any case, these are designed to stay in a single spot for the duration of construction.
5. Are designed to lift and move heavy loads along a preset path
6. Are designed to accomplish pre-planned tasks
7. Perform the task they are designed for very well but offer little flexibility on the job.

OSHA Standard Subpart CC 1926.1435(b)(3) Foundations and structural supports. Tower crane foundations and structural supports (including both the portions of the structure used for support and the means of attachment) must be designed by the manufacturer or a registered professional engineer.

OSHA Standard Subpart CC 1926.1435(b)(7)(ii) Have a registered professional engineer verify that the host structure is strong enough to sustain the forces imposed through the braces, brace anchorages, and supporting floors.

OSHA Standard Subpart CC 1926.1435(f)(2) Pre-erection inspection. Before each crane component is erected, it must be inspected by a qualified person for damage or excessive wear

## MOBILE CRANES:

1. As the name implies, these cranes are designed to move about the job site during a construction project.
2. These are intended to be used to move things from one place to another quickly and easily.
3. Are meant for temporary use in any given area.
4. Most consist of a single lifting arm that can be raised or lowered.
5. Frequently feature a telescoping arm to allow the crane to reach higher places.

## Types of Mobile Cranes: Crawler, Rough-Terrain, All-Terrain, Vehicle Mounted, and Carry Deck

OSHA Standard Subpart CC 1926.1435(b)(1) - Section 1926.1403 (Assembly/Disassembly--selection of manufacturer or employer procedures), § 1926.1404 (Assembly/Disassembly--general requirements (applies to all assembly and disassembly operations)), § 1926.1405 (Disassembly--additional requirements for dismantling of booms and jibs (applies to both the use of manufacturer procedures and employer procedures)), and § 1926.1406 (Assembly/Disassembly--employer procedures--general requirements), apply to tower cranes (except as otherwise specified), except that the term "assembly/disassembly" is replaced by "erecting, climbing and dismantling," and the term "disassembly" is replaced by "dismantling."

OSHA Standard Subpart CC 1926.1402(a)(1) "Ground conditions" means the ability of the ground to support the equipment (including slope, compaction, and firmness).

OSHA Standard Subpart CC 1926.1408(a)(2) Determine if any part of the equipment, load line, or load (including

rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line. If so, the employer must meet the requirements in Option (1), Option (2), or Option (3) of this section, as follows:

OSHA Standard Subpart CC 1926.1412(c)(1) Upon completion of assembly, the equipment must be inspected by a qualified person to ensure that it is configured in accordance with manufacturer equipment criteria.

OSHA Standard Subpart CC 1926.1417(a) The employer must comply with all manufacturer procedures applicable to the operational functions of equipment, including its use with attachments.

OSHA Standard Subpart CC 1926.1417(c)(1) The procedures applicable to the operation of the equipment, including rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions, and operator's manual, must be readily available in the cab at all times for use by the operator.

OSHA Standard Subpart CC 1926.1417(d) The operator must not engage in any practice or activity that diverts his/her attention while engaged in operating the equipment, such as the use of cellular phones (other than when used for signal communications).

OSHA Standard Subpart CC 1926.1424(a)(1) The requirements in paragraph (a)(2) of this section apply where there are accessible areas in which the equipment's rotating superstructure (whether permanently or temporarily mounted) poses a reasonably foreseeable risk.

OSHA Standard Subpart CC 1926.1424(a)(3)(i) Before an employee goes to a location in the hazard area that is out of view of the operator, the employee (or someone instructed by the employee) must ensure that the operator is informed that he/she is going to that location. OSHA Standard Subpart CC 1926.1427(a) General requirements for operators. The employer must ensure that each operator is trained, certified/licensed, and evaluated in accordance with this section before operating any equipment covered under subpart CC, except for the equipment listed in paragraph (a)(2) of this section.

## FOCUS POINTS YOU NEED TO KNOW:

1. Use the right crane for the right construction site and application.
2. It all starts with an adequate foundation.
3. Know your operating environment (overhead power lines – other obstacles).
4. Ensure all required inspections are completed.
5. Ensure the crane is utilized for its intended use.
6. If around load, check that operations are within the capacities of equipment.
7. Keep all personnel out of the equipment's rotating superstructure.
8. Never enter the crane working area without communication with the operator.
9. Never be in the failure zone of a load.
10. If operators or riggers seem to be unknowing or unqualified first remove yourself from the area and then report issues to your immediate supervisor.



"1926.1435 - Tower Cranes. | Occupational Safety and Health Administration." [www.osha.gov](http://www.osha.gov), [www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1435](http://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1435).

"1926.1402 - Ground Conditions. | Occupational Safety and Health Administration." [www.osha.gov](http://www.osha.gov), 2024, [www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1402](http://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1402).

"1926.1408 - Power Line Safety (up to 350 KV)--Equipment Operations. | Occupational Safety and Health Administration." [www.osha.gov](http://www.osha.gov), [www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1408](http://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1408).

"1926.1412 - Inspections. | Occupational Safety and Health Administration." [www.osha.gov](http://www.osha.gov), [www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1412](http://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1412).

"1926.1417 - Operation. | Occupational Safety and Health Administration." [www.osha.gov](http://www.osha.gov), [www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1417](http://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1417).

"1926.1424 - Work Area Control. | Occupational Safety and Health Administration." [www.osha.gov](http://www.osha.gov), 2010, [www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1424](http://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1424).

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