

Crane Safety

Safety Meeting Packet

Protect Your Workforce



Employers working with cranes of any type should know the correct safety protocols for crane operations. This includes how to correctly assemble and disassemble, inspect, and operate the crane. Regularly following these safety protocols and ensuring that employees abide by them protects businesses against future accidents, injuries, and property damages.

Assembly and Disassembly

Proper assembly and disassembly is important to ensuring crane safety. Employers must comply with all applicable manufacturer prohibitions and either:

- Equipment manufacturer procedures, or
- Company-specific procedures developed by a “qualified person.” The Occupational Safety and Health Administration (OSHA) defines these individuals as people “who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.” 29 CFR 1926.1406 addresses the minimum requirements for company developed procedures.



Ground Conditions

Since a crane’s capacity and stability depend on adequate ground conditions, they are essential for safe crane operations. 29 CFR 1926.1402(b) indicates that a crane cannot be assembled or used unless ground conditions are firm, drained, and sufficiently graded so that when combined with the use of supporting materials, the manufacturer’s specifications for adequate support and degree of level of the equipment are met.

A/D Director

An individual that meets the criteria for both a “competent person” and a qualified person, or a competent person assisted by one or more qualified persons must act as the assembly/disassembly director (A/D Director). OSHA defines a “competent person” as a person “capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.”

Some of the tasks handled by the A/D Director include the following:

- Before assembly/disassembly begins, review of the applicable procedures, unless the Director understands the procedures and has applied them to the same type and configuration of equipment.
- Verify capacities of all equipment used.
- Address the hazards associated with operation, including: site and ground conditions, blocking material, proper location of blocking, verifying assist crane loads, boom & jib pick points, center of gravity, stability upon pin removal, snagging, struck by counterweights, boom hoist brake failure, loss of backward stability, and wind speed and weather. Please see 29 CFR 1926.1404 for additional information.
- Ensure that crew members understand their tasks, the hazards associated with them, and any hazardous positions/locations to avoid.

Inspections

A variety of inspections are required to ensure that equipment is in a safe condition. The following inspections are required of all equipment, including wire ropes when they are used:

- Shift – conducted by a “competent person”
- Monthly – conducted by a “competent person”
- Annual – conducted by a “qualified person”

Please see 29 CFR 1926.1412 for detailed information pertaining to crane equipment inspections. In addition to the routine inspections addressed above, an inspection is also required under the following circumstances:

- Equipment modifications, additions, repairs, or adjustments
- After equipment assembly
- Pre- and post-erection for tower cranes
- When equipment is used in severe service or when not in regular use



Fall Protection and Safety Devices

For assembly/disassembly work, fall protection equipment is usually mandated for workers more than 15 feet above an unprotected side or edge.

Outside of assembly/disassembly, fall protection equipment is required for workers more than 6 feet above an unprotected side or edge, as follows:

- When moving point-to-point:
 - On non-lattice booms
 - On non-horizontal lattice booms
 - On horizontal lattice booms where the fall distance is 15 feet or more.
- While at a work station on any part of the equipment except when the worker is at or near draw-works (when the equipment is running), in the cab, or on the deck.

Unless specified otherwise within the standards, the following equipment safety devices are often required:

- Crane level indicator
- Boom stops
- Jib stops (if a jib is attached)
- Locks on foot pedal brakes
- Integral holding device/check valve
- Rail clamps and rail stops for equipment on rails
- Horn

29 CFR 1926.1416 addresses operational aids that may also be required for equipment.

Power Lines

The OSHA standards (29 CFR 1407-1411) address safety procedures that must be followed when crane operation is near power lines. The procedures are designed to prevent equipment contact with power lines and to protect workers if contact occurs. The standards also address minimum clearance distances.

Operation

General requirements for safe operation are included below:

- A crane may not be operated beyond its rated capacity.
- All procedures applicable to equipment operation must be readily available in the cab, including: rated capacities (load charts), recommended operating speeds, special hazard, warnings, instructions, and the operator's manual.
- Operators must not engage in any practice or activity that diverts his/her attention from operating the equipment.
- Except in certain cases, the operator must remain at the controls while the load is suspended.
- When equipment or functions are out of service, tags must be placed in the cab or a conspicuous position stating that the equipment or function is out of service and not to be used. Such equipment or function may not be used until the tag is removed by an authorized person.
- Operators must verify that all controls are in the proper starting position and confirm that personnel are in the clear prior to starting the crane engine.
- A competent person must determine the necessity of implementing manufacturer recommendations for securing equipment when a storm warning is issued for the local area. They must also adjust equipment and/or operations to address wind, ice, and snow effects.
- Crane equipment must not be used to drag or pull loads sideways.
- Brake tests must be routinely performed.
- To prevent rope detachment, neither the load or the boom must be lowered below the point where there are less than two full wraps of rope.
- Know if traveling with a load is prohibited by the manufacturer. If not, take extra precautions to ensure safety.



Please consult the OSHA standards below for additional information:

- 29 CFR 1910.179: Overhead and gantry cranes
- 29 CFR 1910.180: Crawler locomotive and truck cranes
- 29 CFR 1910.181: Derricks
- 29 CFR 1926 Subpart N: Helicopters, Hoists, Elevators, and Conveyors



Crane Safety Safety Meeting Attendance Acknowledgement

Company Name _____
 Department / Division _____
 Meeting Date & Time _____ AM PM
 Meeting Location _____
 Name & Title of Individual Conducting Meeting _____

Key Meeting Discussion Points / Important Reminders:

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Internal Procedures Reviewed:

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By signing this document, you confirm your attendance at the meeting and acknowledge the issues addressed above!

Employees in Attendance		
(Print): _____	(Print): _____	(Print): _____
(Sign): _____	(Sign): _____	(Sign): _____
(Print): _____	(Print): _____	(Print): _____
(Sign): _____	(Sign): _____	(Sign): _____
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(Sign): _____	(Sign): _____	(Sign): _____
(Print): _____	(Print): _____	(Print): _____
(Sign): _____	(Sign): _____	(Sign): _____

Employees not present: _____

Suggestions/Recommendations to improve workplace safety and health: _____

Actions Taken: _____

Manager/Supervisor: _____ Date: _____

Disclaimer:

The information provided above was assembled using multiple resources. However, these materials do not contain ALL the information available regarding the required safety standards under local, provincial, state, or federal law for your industry.
