

Level Up, Own Your Lift *Self-Planned Inspections*

Crane Assembly Supervisor Questions

BC Crane Safety is providing these self-planned inspection questions to educate crane stakeholders for a better understanding of their health and safety responsibilities to comply with WorkSafeBC's Occupational Health and Safety Regulation and relevant CSA standards.

This set of questions have been developed in conjunction with WorkSafeBC's Crane/Mobile Equipment Team. It is recommended that crane employers and owners refer to these questions to improve their company or site safety management systems.

What is the "Level Up; Own Your Lift" self-planned inspection process?

The "Level Up; Own Your Lift" inspection program is a self-planned inspection process for worksites that use cranes (mobile, self-erect and tower) to measure your responsible persons' / parties' compliance with crane safety.

BC Crane Safety is constructing crane-process-specific self-planned inspection questions and support materials for:

- Prime contractors
- Crane employers
- Crane owners
- Crane supervisors
- Crane operators

Plan — Responsibilities Questions

Questions: Qualifications	Validation
1. Can you describe your years of experience carrying out assembly/disassembly, climbing and crane maintenance work? CSA Z248 - 5.1.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Have you received manufacturer specific training in inspection, maintenance, assembly, and disassembly? WCA 21	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. What makes and models of cranes do you work with? CSA Z248 - 5.1.2	
4. If reviewing a particular activity, how many times have they assembled the specific make and model of crane? CSA Z248 - 5.1.2	

Do — Plan Site Operations Questions

Questions — Other Crane Personnel	Validation
5. Describe your process for determining the qualifications of your personnel. WCA 21, OHSR 14.73(2)	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete

What is the planned inspection about?

The self-planned inspection uses these questions to conduct a consistent and responsibility-driven inspection of the crane-related parties on the worksite.

Do — Site Operations Questions, continued

6. Are they employees or subcontracted workers? WCA 21	<input type="checkbox"/> Yes <input type="checkbox"/> No
7. Have you documented the training of your qualified personnel? Do you have records available? WCA 21	<input type="checkbox"/> Yes <input type="checkbox"/> No

Check — Planning Crane Operations Questions

Questions — Assembly/Disassembly/Climbing	Validation
8. Does the assembly supervisor use the BCCS Pre-erection requirements checklist during the planning of a crane assembly? CSAZ248 - 5.1.2	<input type="checkbox"/> Yes <input type="checkbox"/> No
9. Describe your hazard identification and risk assessment process to address known and foreseeable hazards associate with crane activities? OHSR 4.1, CSA Z248 - 5.1.2	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
10. Have you developed and implemented work procedures such as lockout, fall protection plans and drop object prevention plans? OHSR 10.4, 14.88(7)	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
11. Describe your process for planning the assembly/disassembly of tower cranes, and describe the document exchange process with others involved in the (Prime, Client Firm)? CSA Z248 - 5.1.2	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
12. Describe how you organize records and information collected during the planning process, including the owners log, and all relevant documentation related to the crane activity. OHSR 4.5, 14.12(3)	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete

How many types of self-planned inspections are there?

The self-planned inspection uses these questions to conduct a consistent and responsibility-driven inspection of the crane-related parties on the worksite.

There are five types of inspections, including:

- Crane Employer/Site Inspections
- Provisional Operator Supervisor Checks
- Crane Assembly Supervisor Checks
- Preventive Maintenance Inspections
- Crane Operator Qualification Checks

Inspection/Check Questions are available for download on the BC Crane Safety website.

Check — Records/Crane Components Questions

Questions — Compliance System	Validation
13. How do you ensure crane manufacturer's or P. Eng's erection, climbing, and dismantling instructions/procedures are available to/ reviewed by the assembly crew prior to activity? OHSR 14.73.2, 14.12, 14.15, CSA Z248 - 5.2.1	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
14. Are you aware of/how do you maintain manufacturer's service bulletins, recall notices? OHSR 14.13	<input type="checkbox"/> Yes <input type="checkbox"/> No
15. What is the system to verify required documentation is readily available prior to assembly day? OHSR 14.2(6), 14.74(1), 14.77	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
16. How do you inspect/ensure crane parts/components are inspected, and preventive maintenance is carried out prior to assembly)? OHSR 14.13, 14.14	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete (Review owner's log)
17. How do you ensure all interchangeable structural components are uniquely identified, to confirm they match listed components in NDT? OHSR 14.76, 14.77, CSA Z248 - 5.2.3	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
18. How do you ensure the crane parts components are ready for transport and assembly? CSA Z248 - 5.5.1, 5.6.2	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
19. Describe the supervision process of the loading tower crane components for shipment? CSA Z248 - 5.5.1	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
20. How do you document you have inspected all crane components for damage after delivery to the site and prior to erection? CSA Z248 - 5.1.2(d), 5.6.1, 6.4.3	<input type="checkbox"/> Yes <input type="checkbox"/> No

Check — Before Use/Post Assembly Questions

Questions — Written Report/Activities	Validation
21. How do you verify the weight of counterweight elements is correct? OHSR 14.80	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
22. After the crane has been erected, describe the process for ensuring that the written report is completed, and available at the work site before the crane is used. How do you confirm this? OHSR 14.75(1)	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
23. Are you aware of what the assembly supervisor is responsible to do, or confirm has been done to confirm a crane is ready to be turned into service? CSA Z248 – 6.4.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
24. Describe the process for setting the overload prevention system (limits) test blocks, engineering documentation, and documenting the settings. OHSR 14.81, 14.75(3)	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
25. Do you carry out climbing or maintenance activities for tower cranes that are in operation at work sites? OHSR 14.73, 14.75	<input type="checkbox"/> Yes <input type="checkbox"/> No
26. Describe your pre-planning process for climbing tower cranes. OHSR 14.12	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
27. How do you confirm that all climbing components are installed correctly after the climbing activity is complete, including having a Professional Engineer sign off? OHSR 14.75(4)	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
28. Describe process to document completed maintenance work. OHSR 14.14, CSA Z248 – 7.1	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete
29. How do you ensure any electrical work carried out is completed in accordance with the applicable CSA standard, and requirements of Technical Safety BC and other municipalities? CSAC 22	<input type="checkbox"/> Complete <input type="checkbox"/> Incomplete

PLAN, DO, CHECK, & ACT

BC Crane Safety's Level Up Self-Planned Inspections are education and awareness materials for crane stakeholders to use an informed approach to inspections as part of a safety management system focusing on worksite monitoring and continuous improvement.

WCB OHSR EXCERPTS

Included are some of the relevant parts of the Occupational Health and Safety Regulation (OHSR) on crane employer and site responsibilities.

Act — Post Inspection Discussion

Continuous Improvement Next Steps

During the post inspection discussion, please encourage the worksite representatives to act on the key learnings or areas of improvement.

If unsure, help them to identify 1-2 measures that need/must be corrected, changed, eliminated, or modified to improve worker and worksite safety.

The Act stage of the Plan-Do-Check-Act process is where the worksite representative/superintendent implements an improved baseline of operations and re-measures implementation to ensure improvements/corrections. By measuring implementation, i.e., identifying a lower level of risk, reducing hazard severity/frequency, the worksite is taking positive action towards improved health and safety.

Workers Compensation OHSR — Excerpts

Standards – OHSR 14.2 (6)

A tower, hammerhead crane or self erecting tower crane must meet the requirements of CSA Standard Z248-2004, Code for Tower Cranes.

Inspection, maintenance and repair – OHSR 14.13

- (1) Each crane and hoist must be inspected and maintained at a frequency and to the extent required to ensure that every component is capable of carrying out its original design function with an adequate margin of safety.
- (2) A crane or hoist must not be used until any condition that could endanger workers is remedied.
- (3) Any repair to load bearing components of a crane or hoist must be certified by a professional engineer or the original equipment manufacturer as having returned the component to a condition capable of carrying out its original design function with an adequate margin of safety.
- (4) Maintenance or repair of a crane or hoist must be done by or under the direct supervision of a qualified person.

Inspection and maintenance records – OHSR 14.14

Records of inspection and maintenance meeting the requirements of Part 4 (General Conditions) must be kept by the equipment operator and other persons inspecting and maintaining the equipment, for

- (a) a crane or hoist with a rated capacity of 900 kg (2 000 lbs) or more,
- (b) a crane or hoist used to support a worker,
- (c) a tower crane.

Workers Compensation OHSR — Excerpts, continued**Manuals and records – OHSR 14.79**

The following documents respecting operation, inspection, maintenance and repair of a tower crane must be kept at the workplace where and while the crane is erected:

- (a) the portions of the manufacturer's manual or engineer's instructions required by section 14.12 (3);
- (b) all records dated from the date of structural certification under section 14.77, including those specified in section 14.75 (5);
- (c) in the case of a self erecting tower crane, all records dated from the date of the last certification of the crane.

Limit devices – OHSR 14.81

- (1) A tower crane must have automatic travel limit switches and automatic overload prevention devices that prevent overloading at any trolley position, the load block from travelling beyond the highest allowable position specified by the manufacturer and the trolley from travelling beyond the allowable limit specified by the manufacturer.

FOR MORE INFORMATION

For more crane safety related information, including operator certification, contact BC Association for Crane Safety (BC Crane Safety)

Where can I find out more information about crane safety?

Check BC Crane Safety's websites at:

www.bccranesafety.ca