

## Annual inspection and certification requirements for mobile cranes and boom trucks

Mobile cranes and boom trucks have the potential for catastrophic equipment failure that can cause serious injury or death. In one incident, a worker was fatally injured when a crane collapsed due to the failure of a critical mechanical component. To reduce the risk, mobile cranes and boom trucks must be inspected and certified annually. An important part of the inspection and certification process involves an assessment of a machine's critical components. This bulletin aims to ensure that both machine owners and certifying engineers understand their responsibilities in the inspection and certification process.

### Responsibilities

The owner of a mobile crane or boom truck is responsible for ensuring that the machine's annual inspection and certification are completed. The inspection must assess all critical components (i.e., the structural, mechanical, and control system components that affect the safe operation of the equipment).

The certifying engineer is responsible for ensuring that qualified persons inspect, assess, and (where necessary) repair the machine's critical components in accordance with the certifying engineer's instructions.

### Factors the certifying engineer considers

The certifying engineer determines the extent of individual component inspections, including assessment, testing, or dismantling.



Some factors relevant in making these determinations include:

- The manufacturer's specifications and instructions
- The requirements of the applicable standards, safety codes, and regulations
- Previous inspection history and results

- The age and general condition of the equipment
- Heavy-duty vs. light use of the equipment, and any known incidents since the last certification
- Known reliability or component problems
- The available inspection and maintenance records
- The certifying engineer's knowledge of the overall effectiveness of the owner's inspection and maintenance program

## Inspection by qualified persons

Persons with appropriate qualifications for performing the structural, mechanical, and controls inspections include:

- A person qualified to *CSA Standard W178.2, Certification of Welding Inspectors* (for visual weld inspection)
- A person qualified to *CAN/CGSB Standard 48.9712, Non-Destructive Testing — Qualification and Certification of NDT Personnel* (for non-destructive testing)
- A licensed heavy-duty mechanic (for mechanical/hydraulic and electrical inspection)

Other qualifications based on training, education, and experience may also be appropriate.

## Certification and documentation

Certification must be done by a professional engineer who is licensed to practise in British Columbia.

The certification document must state the following:

- The equipment is safe for use.
- The structural, mechanical, and control elements of the equipment have been inspected in accordance with the manufacturer's specifications and the requirements of the applicable design and safety standards.

The certification document must also state the names of the qualified person(s) who carried out the inspection work.

## Regulation requirements

For requirements related to annual inspection and certification of mobile cranes or boom trucks, see the following sections of the Occupational Health and Safety Regulation and its related guidelines (available on [worksafebc.com](http://worksafebc.com)):

- [Section 14.71, Annual inspection](#)
- [Sections 14.2\(1\) and 14.2\(5\), Standards](#)
- [Section 14.16.1, Certification following misadventure](#)
- [Guideline G14.71, Mobile crane and boom truck annual inspections](#)

## Applicable standards

- [CSA Standard Z150-1998, Safety Code on Mobile Cranes](#) (CSA Communities account required for access)
- [ANSI Standard ANSI/ASME B30.5-2004, Mobile and Locomotive Cranes](#)
- [ANSI Standard ANSI/ASME B30.22-2005, Articulating Boom Cranes](#)

## For more information

[BC Association for Crane Safety \(BC Crane Safety\)](#)