

Safe operation of vehicle-mounted truck loader cranes (Construction Bulletin)

This bulletin provides some general advice about the safe use of truck loader cranes, which are often referred to by their commercial name or brand of Hiab or Palfinger.

Updated: 3/9/2017 to reflect the Health and Safety at Work Act 2015.

Introduction

This bulletin provides some general advice about the safe use of truck loader cranes, which are often referred to by their commercial name or brand of Hiab or Palfinger. A variety of truck loader cranes are available, and they often have different features. Generally, these cranes are designed so that the vehicle wheels provide stability with additional assistance from stabilisers (outriggers).

There have been at least three fatal accidents in New Zealand involving operators being crushed between the load and the vehicle. A number of serious injuries have also occurred. Basic safety rules need to be applied when using these devices.

Workplaces and other businesses in the workplace

Because businesses have duties to all workers and others affected by their work – not just those they directly employ or engage – they may well have overlapping duties. Ensuring that businesses work together for the health and safety of everyone in the workplace is a fundamental part of HSWA's design.

In general terms, when we talk about businesses working together, we mean that all businesses must, so far as is reasonably practicable, consult, cooperate, and coordinate their activities with other businesses particularly when there are overlapping duties in relation to workplace health and safety. Overlapping duties mean that more than one business has health and safety duties in relation to the same matter.

- Persons working with these cranes must work with affected businesses in the workplace, so far as is reasonably practicable to identify and manage the hazards. Workplace Hazards may include:
 - Site entry and exit
 - Reversing on site
 - Suspended loads

- Underground services
- Power lines and other power sources
- Other persons
- Working at heights, such as when disconnected or rigging the load.
- Simultaneous activities, such as when there are other items of plant working nearby like forklifts, diggers or trucks.

The requirements for managing hazards are specified in the [Health and Safety at Work \(General Risk and Workplace Management\) Regulations 2016](#).

For information on why business should consult with each other see [working together](#).

Operational consideration and precautions

Persons required to operate these cranes must be properly trained and experienced (refer to [Table 4.1](#) of the 3rd edition of the Approved Code of Practice for Cranes). They must understand the manufacturer's recommendations and be aware of any limitations or special features. The following procedures should be observed when setting out to use a truck loader crane:

- Appropriately plan the lift
- Choose the best working position to position the vehicle. The optimum site would be a position that is as level as possible, is sturdy enough to accommodate the vehicle stabilisers/outriggers and provides unrestricted views of the unloading process.
- The operator must not be positioned between the load and the vehicle at any time during lifting.
- The stabilisers should be extended as directed by the manufacturer's recommendations and blocked if on soft ground.
- Do not lift the truck wheels off the ground with the stabilisers.
- Ensure that the ground around the vehicle is clear of tripping hazards. Maintain a minimum distance of 4 metres at all times between any part of the crane or load and power lines.
- Know how to operate any safety device for the particular crane.
- Ensure that any inspection requirement for the crane is up to date – refer to [Appendix A](#) of the 3rd edition of the Approved Code of Practice for Cranes for further information.

When lifting loads, there are some important things that you must not do:

- Never stand or walk under a suspended load or let anyone else do this.
- Keep out of the danger zone at all times. The danger zone includes:

- The path of the crane's components
- The path of the load
- The area beneath the suspended load; and
- Any potential crush area such as between the vehicle and the load.

Failing to observe these instructions at all times could lead to death or serious injury.

Load slinging

Incorrect slinging or load attachment will also lead to accidents. Make sure your load is within the rated capacity for the device and any slings or lifting chains are adequate for the weight of the load.

The following points must be observed:

- Ensure that the load is slung in a way that it will not shift in the sling when lifted. This will require careful consideration of the centre of gravity and balance.
- Carry out a trial lift slowly at first to check that the load is balanced.
- Ensure a steady movement of the load during slewing.
- Ensure that slings are in a safe and undamaged condition and are fitted with the current inspection tag.

Load slinging requirements see the [Approved Code of Load-lifting Rigging](#) (5th edition).

Stabilising the truck

The following actions may be required to ensure optimum operating conditions:

- After selecting the site, park the vehicle, apply the handbrake and chock the wheels if on sloping ground.
- Ensure the stabilisers are not overloaded and are blocked if on soft ground.
- Ensure tyre pressures are correct, as low pressures may affect stability.
- Whenever possible, the vehicle should be level, but in any case no more than 5° inclination in any direction.

Operational requirements

Always follow the instructions provided by the manufacturer.

Also:

- Warm up the engine and oil before lifting.
- Watch out for a change in stability as the load is extended.
- Operate within the capacity of the rating chart.
- Keep the suspended load in view at all times.
- Never leave a crane unattended with a load suspended.
- Do not drag, or pull laterally with the boom.
- When using remote control always isolate the control (use emergency stop) when rigging or moving around.
- Be aware of the safety devices such as:
 - Safe load indicators
 - Emergency cut-off
 - Limitation of rotation; and
 - Overload protection and anti two-block protection for cranes fitted with hoists.
- Be extra careful when operating mirrored controls.

After operating the crane

- Ensure the load is secured in accordance with the NZTA Code of Practice for the Safety of Loads on Heavy Vehicles.
- Fold the crane correctly into its cradle.
- Retract and stow stabilisers.
- Ensure all hooks and loose items are secure.
- Check the height of the stowed crane before moving off.

Maintenance issues

Follow the daily and periodic maintenance schedule recommended by the manufacturer. Ensure that the crane is covered by the required inspection certificate or record. For further information on

inspection regimes for truck loader cranes, see Part 14, and Table A2 of Appendix A in the [Approved Code of Practice for Cranes](#) (3rd edition).

For more information

Refer to the Crane Association of New Zealand's *Crane Safety Manual*, available for purchase at www.cranes.org.nz or safecrane.nz.