

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

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### 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 outriggers (stabilisers).

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.

### 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:

- 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 outriggers 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 outriggers.
- 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.

### Stabilising the ruck

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 outriggers or 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.
- 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 outriggers and 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 Power Crane Association of New Zealand's Crane Safety Manual, available for purchase at [www.cranes.org.nz](http://www.cranes.org.nz).

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