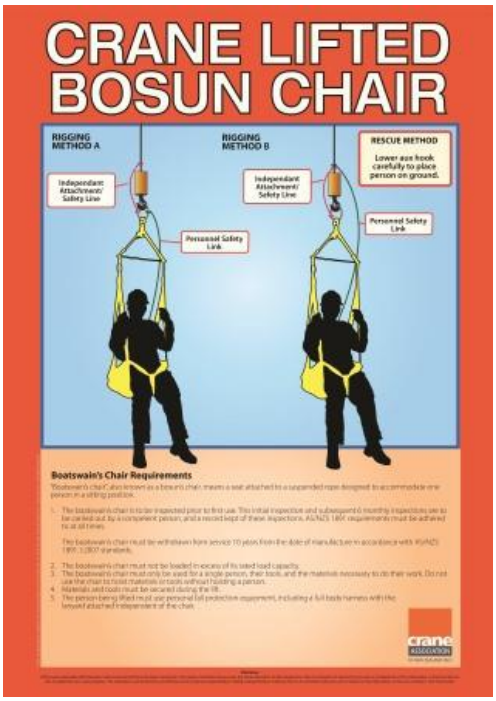

Crane Association of New Zealand Inc

Position Paper

Crane Suspended Bosun Chairs

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Contents

Contents 3
1. Background 4
2. Bosun Chair Requirements 4
3. Crane Requirements 5
4. Lifted Personnel Requirements 5
5. Crane Operator Requirements 6
6. CANZ Position 7
7. Reference 8
8. Further Information 8

1. Background

Crane suspended bosun chairs have been used in many forms and across many sectors of industry. In general, bosun chairs fall under the category of Crane Lifted Work Platforms which is defined as:

A crane-lifted work platform is the piece of equipment, from which personnel carries out their work, which is either attached to the crane's hook or the head of the crane's boom. (CANZ, Crane Lifted Work Platforms, 2013)

The bosun's chair is defined as follows:

"Bosun's chair", also known as a boatswain's chair, means a seat suspended from a crane designed to accommodate one person in a sitting position. (CANZ, Crane Lifted Boatswain's Chair, 2013)

2. Bosun Chair Requirements

2.1. The bosun's chair is to be inspected before first use. This initial inspection and subsequent annual inspections are to be carried out by a competent person, and a record kept of these inspections.

2.2. Engineered / Steel Bosun's chairs are to be design verified by a CPEng.

2.3. Bosun's chairs MUST have a clearly labelled SWL.

2.2. AS/NZS 1891 requirements must be adhered to at all times unless a Life Jacket is in use as per the ACOP for Cranes Part 17.

2.3. Fabric or materal bosun's chairs must be withdrawn from service in accordance with AS/NZS 4488.2 or as per Manufacturers Instructions. (Standards, 2017) Engineered / Steel bosun's chairs are to be inspected annually.

2.4. The bosun's chair must not be loaded in excess of its rated load capacity.

2.5. The bosun's chair must only be used for workers, their tools, and the materials necessary to do their work. Do not use the chair to hoist materials or tools without hoisting the worker.

2.6. Materials and tools must be secured during the lift.

2.7. The person being lifted must use personal fall protection equipment, including a full body harness with the lanyard attached independent of the chair. (Standards NZ, 2007). If a fixed certified harness attachment point is provided this may be used.

2.8. For work over water a life jacket may be used as an alternative to 2.7 as per the ACOP for Cranes Part 17.

3. Crane Requirements

The following requirements must be meet by the crane being used to lift a bosun's chair:

3.1. All cranes being used with a bosun's chair shall have power lowering capability. Free-fall capability shall be locked out.

3.2. Where a crane that is to be used with a bosun's chair has multiple hoist drums and is fitted with a hoist system that allows either hook block to free fall, the hook block not in use shall be removed and the wire rope stowed.

3.3. Cranes operating suspended bosun's chairs shall operate at not more than 75% of their safe working load at working radius as indicated by a safe load indicator.

3.4. All cranes being used with bosun's chairs shall have anti-two block devices fitted unless they have a fixed hook.

3.5. When operating with bosun's chairs from the hook, all hook safety latches shall be fully operational.

3.6. Cranes with automatically-applied brakes to the hoist or twin-lever operated may operate with two hooks. i.e. Crane Lifted Work Platforms on one hook, the load on the second hook as long as the personnel being lifted are not working under a suspended load or exceeding item 3.3 above, provided a job-specific hazard assessment/lift plan has been undertaken taking into account the working environment and the hazards present in the workplace.

4. Lifted Personnel Requirements

Persons working from a bosun's chair have the following requirements:

4.1. Personnel being lifted in a bosuns chair should have the appropriate training as per the Best practice guidelines for working at height in New Zealand. Eg. NZQA Unit Standard 23229.

4.2. Persons working in bosun's chair shall wear the appropriate safety harness at all times suitably attached via an approved lanyard. If the arrangement of harness anchor point and bosun's chair means that it is at all possible for the attached person to move beyond the confines of the bosun's chair, then the lanyard shall incorporate an energy/shock absorber. If movement beyond the confines of the chair is not possible, then attachment via a suitable fixed-length lanyard is acceptable and may be preferable in some circumstances.

4.3. In the case of a bosun's chair suspended from the hook, all harnesses shall be attached to one of the following options:

4.3.1. The load line or hook block supporting the bosun's chair.

4.3.2. For bosun's chair independently attached to the load line or hook block the harness may be attached to:

4.3.2.1. The master link supporting the bosun's chair or a strop, wire or chain with an appropriate rating from the master link.

4.3.2.2. An appropriate fixed anchor point on the bosun's chair
(Examples are provided in Section 9 & 11 of the Guideline for the Safe Use of Crane Lifted Platforms) (CANZ, Lifted Personnel Requirements, 2013)

4.4. Appropriate personal protective equipment shall be worn at all times.

4.5. Persons working from the bosun's chair shall be able to communicate clearly with the crane operator at all times.

4.5. In all other instances where it may be necessary to suspend one or more persons from a crane without the use of an approved crane lifted work platform (e.g. in arboriculture operations), these arrangements must be in full compliance with the relevant Codes of Practice.

5. Crane Operator Requirements

Crane Operators working with a bosun's chair have the following requirements:

5.1. The crane operator shall carry out appropriate inspections of equipment daily before use.

5.2. When a bosun's chair is in use, the crane operator shall be in attendance at all times and shall operate the crane within the manufacturer's recommendations.

5.3. The crane operator shall ensure that while operating with a bosun's chair that they do not exceed 75% of the cranes safe working load as indicated by the Safe Load Indicator.

5.4. The crane operator must lift the bosun's chair in a slow, controlled manner with no sudden movements;

5.5. A signal person must be assigned any time the lift will take the employee out of the direct sight of the crane operator.

5.6. Before using a bosun's chair a job-specific hazard assessment/lift plan should be undertaken. (CANZ, 2013)

5.7. Before lifting a bosun's chair, the crane operator must ensure that the requirements for the bosun's chair, crane and personnel are being met.

5.8. Ensure no other lifting on the crane's load lines occurs while personnel are suspended in the bosun's chair unless an appropriate risk assessment has been completed.

A bosun's chair may be used to remove rigging associated to second load line (hook) as long as no load other than the rigging is on this line unless an appropriate risk assessment has been completed.

Example: You may choose to complete a risk assessment to allow the use a bosuns chair to work on an item of plant under load if the risk of damage by a man cage to the plant is significant or a mancage is not reasonably practicable given the situation.

5.9. Only one employee can be lifted at a time.

6. CANZ Position

The Crane Association of New Zealand (CANZ) position on the safe use of bosuns chairs suspended by a crane is as follows.

Bosun's chairs can be used in different environments and suspended by many methods. This Position Paper communicates the CANZ stance on bosun chairs suspended by a crane.

The suspension of a bosuns chair by a crane is as safe if not safer than other elevated work platform methods. Contributing to this are the following facts:

A crane provides the following:

- A stabilised platform to work from
- A higher weight to load ratio (a 75% SWL capacity vs 350kg planned load)
- A fall arrest system connecting the person to the crane
- A fall restraint system connecting the person to the chair

The crane operator provides the following:

- Notifiable Work: if lift is over 5 metres
- Qualified and trained operator
- Total control of the lift and task
- Development of a rescue plan
- Clear communication with lifted personnel
- Carries out daily equipment inspections
- Identification of crane-related hazards/risks
- Preparation of job-specific hazard identification/lift plan
- Operator remains at the controls while the bosun's chair is suspended

A qualified rigger provides the following:

- A rigging and load lift plan
- Rigging of the fall arrest system
    - Independent attachment attaching bosuns chair to crane
    - Personnel safety link from individual to the crane
- Assist with the preparation of a job-specific hazard identification/lift plan
- Assist with the development of a rescue plan
- Identification of the rigging hazards

In all cases the suitability and use of a Bosun's chair must be risk assessed. The PCBU must consider so far as reasonably practicable, if an alternative method is more appropriate? See Best practice guideline for working at height in New Zealand.

7. Reference

CANZ. (2013). Crane Lifted Boatswain's Chair. In CANZ, *Guideline for the Safe Use of Crane Lifted Work Platforms* (p. 8). Wellington: NZ Print.

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CANZ. (2013). Lifted Personnel Requirements. In CANZ, *Guideline for the Safe Use of Crane Lifted Work Platforms* (pp. 11-12). Wellington: NZ Print.

Standards NZ. (2007). AS/NZ 1891 Industrial fall-arrest systems and devices. NZ Standards.

Standards, N. (2017). *Industrial rope access systems Part 2: Selection, use and maintenance.* Wellington.

8. Further Information

This Position Paper contains summary information only and further information is available by contacting the Crane Association of New Zealand Incorporated or obtaining publications on the Crane Training website http://shop.cranes.org.nz.

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