



# Fact Sheet

Issued: January 2017

## CICA Technical Resources



### Engineer's Guidance Note: Dynamic Wind Loadings – Mobile Cranes

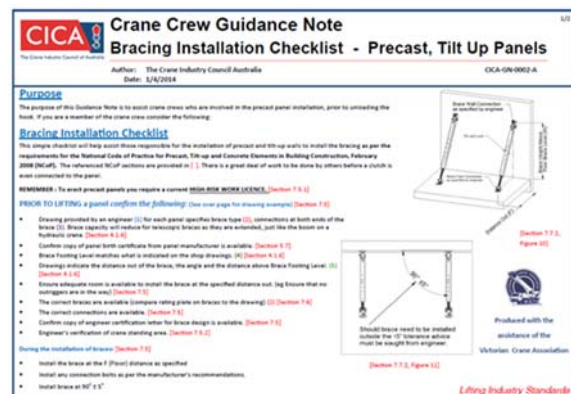
This guidance note provides assistance for mobile crane users in determining reduced permissible wind speeds based on load surface area in accordance with design standards and manufacturer load charts. It guides you step by step through the calculation of allowable wind surface area to load ratio; allowable wind surface area; dynamic wind pressure; load surface area and permissible operating wind speed. Examples are given in the guidance note to help you understand all the functions and calculations.

This is a simple, easy to use guidance that made determining safe wind operating conditions for your mobile cranes easier than you thought!!!

### Crane Crew Guidance Note: Bracing Installation Checklist-Precast, Tilt up Panels

A simple checklist that helps assist crane crew determine information they need for precast panel installation as per the requirements of National Code of Practice for Precast, Tile-up, and concrete Elements in Building Construction, February 2008.

This A4 size, one page laminated document is perfect for you to keep within your crane as reference material for when you install precast panels on site.



### CICA Position Paper: Articulated Crane Operator Requirements

Articulated mobile cranes make up approximately 50% of the total number of mobile cranes in Australia. This position paper [specifies the unique operating features of articulated mobile cranes](#) in comparison with slewing mobile cranes, including crane stability, side slope operation, and crane articulation configuration. It provides guidance on how to read articulated crane load charts for different crane configurations, how to use crane capacity deration chart for side slope, and CICA's position on articulated crane operator competency requirements.

Discuss this position paper with your crane crews at your next tool box meeting or training event to help them have a better understanding of articulated crane operation.

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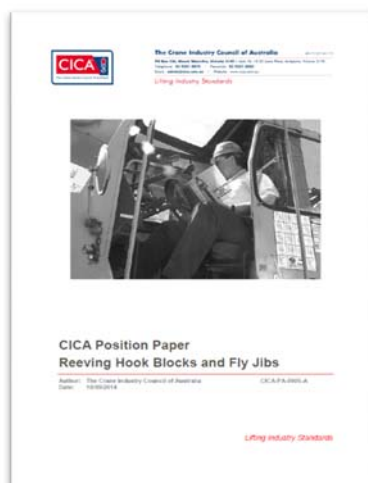
## CICA Position Paper: Crane Accumulator Registration and Inspection

Hydraulic systems used in all terrain cranes with hydro-pneumatic suspension utilize accumulators to balance pressure in the system. Pressure vessel committee for Safe Work Australia raised the issue regarding crane hydraulic accumulator registration and inspection. CICA investigated on this issue by examining accumulator design standards and calculate hazard levels of accumulators according to AS4343. The CICA position paper concludes that unique design registration of accumulators is not required. Hazard level of common crane accumulators is negligible and crane accumulators do not require additional inspection beyond what the industry is already completing.

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## CICA Position Paper: Excavators used as Cranes

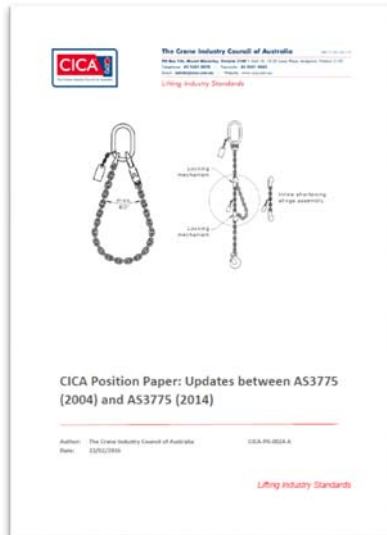
At some construction sites, excavators are used for lifting freely suspended loads. This position paper compares the differences in machine construction, design capacities and operator competencies between excavator and cranes and recommends that for safety and risk control reasons, all lifting activities on site shall be performed by cranes (operated by licensed crane drivers) that have suitable lifting capacity for the task. If excavators are to be used in a similar manner to a crane, lifting activities and procedures shall be planned before the work started, and a safe work method statement shall be prepared. Relevant Australian Standards and industrial



## CICA Position Paper: Reeving Hook Blocks and Fly Jibs

During day-to-day crane operation the configuration of the crane is required to change as the demands of the job change. CICA states that crane operation tasks, like changing the reeving of a hook block on an Articulated Crane (e.g. Franna) or installing the fly jib on a Hydraulic Truck Crane (Kato, Tadano, Kobelco), do not require a licensed rigger. Instructional guidance for performing these tasks is clearly outlined in the crane operator's manuals. These tasks are included in the crane operator's basic

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## CICA Position Paper: Updates between AS3775 (2004) and AS3775 (2014)

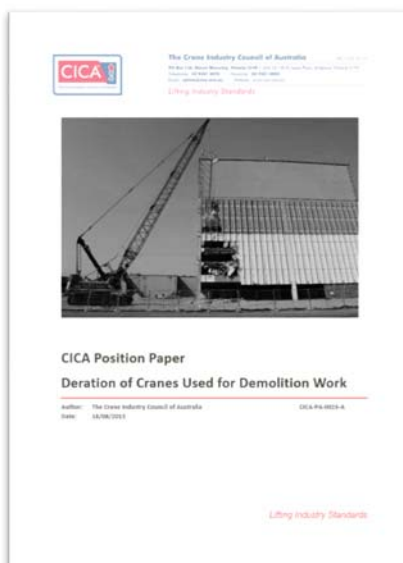
New edition Australian Standards for chain slings were released in December 2014. In this position paper, some key updates in the new edition were listed and discussed:

- Competent Person (AS3775.1, Clause 4)
- Sling Included Angle (AS3775.2, Clause 7.1)
- Load Equalisation with Ramshorn Hooks (AS3775.2, Section 7.1(e))
- Capacity Rating Due to Edges (AS3775.2, Section 8.6.2)
- Shorting Device and Inline Shortening Slings (AS3775.1, Clause 5.13, AS3775.2, Clause 8.6.3(g))
- Hook Latch (AS3775.2, Clause 8.6.3(b))
- Periodic Inspection Interval (AS3775.2, Appendix C)

## CICA Guidance Note: Multi-crane and Multi-Hoist Lift

CICA developed this guidance note together with an Excel calculation template to help crane crews plan multi-crane/hoist lifts. The Excel calculation template can be used to calculate load sharing between cranes/hoists when mid-air rotation is required during lift operation. With inputs from structural drawings of the lifted object, load change in each hoist line during the whole lifting can be calculated. Results from the calculation can be used to assist in crane selection, verification of appropriate crane capacity and line pull capacity.

The new edition Australian Standard AS2550.5 requires that a lift procedure be prepared for multi hoist or crane operation, the Excel calculation template can be used for this purpose.



## CICA Position Paper: Deration of Cranes Used for Demolition Work

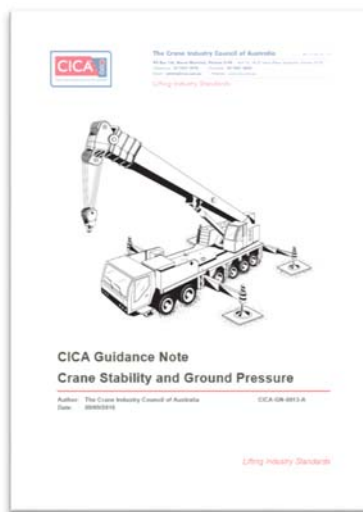
This CICA Position Paper outlines the definition of demolition work and requirements for deration of cranes used for demolition work. The use of cranes for demolition work requires the preparation of a Safe Work Method Statement (SWMS) before work commences. The crane manufacturer should be consulted for the use of the crane for special duties like demolition work. Appropriate type of high risk work licence is required according to the capacity and type of crane. Traffic management arrangements should be implemented to prevent collision with pedestrians or other mobile plant.

Deration rate for: 1)lifting and lowering plant and/or materials 2)lifting and lowering personnel work box, 3)holding suspended loads and 4)swinging-ball demolition service, are specified in this paper.

## CICA Information Sheet: Crane Operating near Airports

Crane operations in the vicinity of an airport are required by law to be assessed and approved under the Commonwealth's Airports (Protection of Airspace) Regulations. This CICA Information Sheet outlines application, notification, lighting and marking requirements specified by aviation authorities and relevant regulations.

An example of how to use the application form is given in the appendix. Links to airport application forms and airport zoning maps are provided in the sheet.



## CICA Guidance Note: Crane Stability and Ground Pressure

Many factors need to be considered when safely setting-up mobile cranes on site. Crane stability often depends on the integrity of the ground on which it stands. Effective assessment of ground conditions is essential to assist with safe set up and operation of cranes.

This CICA Guidance Note provides general guidance to assist on:

- Responsibility of principle contractor and crane company
- Determining the load exerted by mobile crane outriggers or crawler crane tracks
- Determining the suitability of the crane mats, and
- Bearing capacity of different types of soil.

## Coming soon...

### CICA Guidance Note: Rigging

Rigging plays one of the most important roles when it comes to safety on any lifting task. Everyone involved in the lifting task should understand the importance of rigging stability.

This CICA Guidance Note provides guidance to assist on:

- Sling load calculation and sling selection
- Rigging stability and load equalization
- Lifting beam and spreader
- Rigging factors



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