

# PROCEDURE

## Use of Lifting Equipment

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### 1 PURPOSE

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The purpose of this procedure is to advise the relevant standards and correct methods for the safe lifting of any loads by mechanical devices.

### 2 SCOPE

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This procedure sets out the particular requirements for the safety of persons required to carry out any work with mechanical lifting and associated equipment, being:

- the selection, identification, lift trucks and other lifting equipment (hand operated mechanical devices, jacks and specialised lifting equipment), and
- the slinging and direction of loads.

### 3 DEFINITIONS

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For the purpose of this document, the following definitions will apply:

**Company / the company** - Refers to Reay Services Group.

**Crane** - Also refers to hoists, winches and any other like mechanical lifting devices used on site; and

**Other lifting equipment** - Includes but is not limited to work boxes, elevating work platforms, hand operated equipment such as chain blocks and come-a-longs, and associated lifting gear such as chains, slings, shackles, spreader bars and other associated equipment used in the lifting process.

**Jack** - As defined in AS 2693 for various classes:

**General purpose jack** - A vehicle jack, other than a specific vehicle jack;

**Hydraulic jack** - A jack in which the lifting force is obtained by means of the operating force being applied through a liquid:

**Lever jack** - A jack in which the force exerted by the operator is transformed into a lifting force by means of a first or second order lever, used in conjunction with a ratchet.

**Specific vehicle jack** - A jack which is limited in its application to a specific vehicle or range of vehicles and is not intended to be used to lift a vehicle at other than the specific engagement points. NOTE: The designated range of vehicles needs to be marked on the specific vehicle jack.

**Lift truck** - Industrial truck which is capable of loading, raising and transporting loads. Lift truck as defined in AS 2359:7; in general terms a fork lift truck, but includes other forms of lifting platform trucks.

**Drop zone** - Means an area underneath a location where overhead work is being performed into which objects from the overhead work location may fall.

**Overhead work** - Means working at a height above ground or floor level where personnel, equipment or tools are at risk of falling causing damage or injury, and where employees work or have access to the area below where the work is being carried out.

**Independent Competent Person** - A competent person for purposes of statutory inspections as defined by Work Health and Safety Regulations...

**Competent Person** - Means a person who has acquired, through training, qualifications, experience or a combination of these, the knowledge and skill enabling the person:

- for plant design—to certify that plant design complies with the standard stated for the plant (i.e. for cranes and hoists with a swl of 5 t or more;
- for vehicle hoists, elevating work platforms; hoists designed to lift persons; or building maintenance units, AS1418)

**Certified Inspection** - Inspection by a competent person to certify that the registrable plant complies with the relevant standard.

**Registrable Plant** - Equipment as listed in schedule 1, part 1 of the Act, section 1(6), definition high risk plant.

## 4 ROLES AND RESPONSIBILITIES

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All company Employees and Contractors are responsible for complying with the requirements of this procedure.

Refer to QMS-PRO-026 – Authority and Responsibilities Procedure for further details.

## 5 ACTION

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### 5.1 Lift Trucks (forklift)

The points outlined below generally cover all lift trucks.

- Any lift trucks to be used shall be designed, constructed and tested in accordance with AS 2359 in general terms a forklift truck, (and evidence sighted and kept on record of this) so as to be without risk to health and safety when used properly.
- All lift trucks defined as a powered industrial truck equipped with lifting media made up of a mast and an elevating load carriage to which is attached a pair of fork arms or other arms that can be raised 900mm or more above the ground, but does not include a pedestrian-operated truck or a pallet truck (Work Health and Safety Act & Regulation) shall be registered.
- A Lift Truck Certification certificate shall be kept for every lift truck in use. The lift truck certification certificate shall include a record of the registration certificates, machinery inspection sheet and other certified inspections, and any other relevant information that may be deemed useful as a historical record of usage. All maintenance records will be kept in the company head office.
- On an annual basis, or at intervals prescribed by the Australian Standards (AS 2359) or manufacturer's instructions, an independent competent person shall conduct a certified structural / mechanical inspection on all lift trucks.
- Such an inspection shall also be carried out in the event of an incident causing (or suspected of causing) damage.
- All lift trucks are to be readily identified, at the least by their registration number. If a lift truck is not of a class requiring registration, they shall be marked with an appropriate plant number.

- Prior to selecting a lift truck for a particular operation, the following issues shall be determined:
  - The mass and nature of the load to be lifted.
  - The maximum loading that will be imposed on the lift truck by consideration to the mass of the lift and where it is being lifted from and to. This lifting profile will enable a comparison with lift truck load chart specifications.
  - a pre-operation check before commencing operations on any shift and complete machine logbook
- A person shall not operate any lift truck unless they are assessed as competent.
- Maintenance inspections and repairs to lift trucks shall be conducted at least in accordance with AS 2359.

### 5.2 Elevated Work Platforms

In general the guidelines for safe use of mobile cranes apply to elevating work platforms and workboxes.

The use of these as a means to access jobs at height is covered in the Working at Heights procedure.

- Any elevating work platform and workbox to be used shall be designed, constructed and tested in accordance with AS 1418 (and evidence be sighted and kept on record of this) so as to be without risk to health and safety when used properly.
- Records shall be kept of maintenance on all elevating work platforms and workboxes.
- On annual basis, or at intervals prescribed by the Australian Standards (AS 1418 and AS 2550) or manufacturer's instructions, an independent competent person shall conduct a certified structural / mechanical inspection on all elevating work platforms and work boxes.
- Such an inspection shall also be carried out in the event of an incident causing (or suspected of causing) damage. The records of such inspections and correction of defects shall be kept on file.
- All elevating work platforms and workboxes are to be readily identified.
- A person shall not operate any elevated work platforms unless they are assessed as competent.
- All work platforms and work boxes shall undergo safe operating checks or inspections at predetermined intervals, being:
  - a pre-operation check before commencing operations
- All workboxes shall have their design registered as 'registered plant design' (Work Health and Safety Regulations 2011)
- The selection and operation of work platforms and work boxes shall be at least in accordance with the AS2550.10 Cranes - Safe Use; Elevating Work Platforms.
- Maintenance inspections and repairs to elevated work platforms and workboxes shall be conducted at least in accordance with AS 2550.

### 5.3 Overhead gantry/ bridge crane

- The bridge crane design must be registered as its capacity is greater than 10 tonnes
- The bridge crane design must be registered as its capacity is greater than 5 tonnes
- The design registration number is displayed on crane
- The SWL is clearly marked on the crane.

- The crane is maintained and inspected in accordance with written instructions developed at the time of the design by the person who designed or manufactured the crane.
- The crane is maintained and inspected in accordance with the relevant Australian Standard AS2550.1 & AS2550.3
- Records show the crane is serviced quarterly as per AS2550.1
- Records show the crane is inspected annually by a competent person as per AS2550.1
- The crane has undergone a major mechanical inspection where the crane has been in service more than 10 years as per AS2550.1

### 5.4 Jacks and Vehicle Hoists

- All jacks and vehicle hoists to be used shall be designed, constructed and tested in accordance with AS 2693 and AS 2615 so as to be without risk to health and safety when used properly.
- On an annual basis, or at intervals prescribed by the Australian Standards or manufacturer's instructions, a competent person shall conduct an inspection on all jack and vehicle hoists.
- All jacks and vehicle hoists shall be operated in accordance with manufacturer's instructions.
- Because of the variety of likely operating locations, ground conditions and the need to handle a widely differing range of loads, setting up and sitting of these jacks for a lift is an important issue. Particular consideration should be taken to load bearing surfaces.

### 5.5 Hand Operated Mechanical Lifting Devices

Hand operated mechanical lifting devices include chain blocks, pullers (come-a-longs) and other like equipment. Persons involved with the operation and maintenance of these devices shall ensure that they are familiar with the following points:

- Such devices shall be operated in accordance with the manufacturer's instructions.
- The devices shall undergo a certified inspection and test not exceeding intervals of 6 months by an independent competent person. Such an inspection or test shall also be conducted if the device is damaged and is required to be repaired, or if the pre-use check identifies damage or a malfunction.
- The devices shall have the maximum Safe Working Load (SWL) clearly marked in a visible position. The load lifted is not to exceed this.
- When preparing to lift loads, ensure that:
  - the load weight is within the SWL capability of the lifting device and lifting gear
  - the attachment point is structurally secure and slings not in a position to be pinched during the lift, and
  - all attachment bolts and welds have been removed allowing for a free lift.

### 5.6 Lifting Gear

Lifting gear is that equipment used for slinging and lifting loads. It includes but is not limited to sheave blocks, crane or other hooks, lifting beams (spreader beams and equalising gear), shackles, eye bolts, clamps, pulley systems, swivels, chain slings, wire rope slings, synthetic webbing slings. Persons involved with the use and maintenance of lifting gear shall ensure that they are familiar with the following points:

- All lifting gear used on site shall comply with the relevant Australian Standards or, if fabricated as a 'specific for task' equipment, shall be certified by a competent person. The Safe Working Load (SWL) or Working Load Limit (WLL) shall be stamped on the lifting gear or on a tag attached. The item may be colour coded according to its SWL, as required.

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- Fibre ropes can be used for lifting by dogman or rigger in accordance with AS 1380.
- A load colour chart should be displayed at the storage area and in other relevant areas in and around the site.
- The minimum standards for specification and safe care and use are outlined in the Australian Standards.
- All lifting gear (excluding all shackles, eyebolts and slings under 20mm) shall be numbered and recorded on a register. It shall be inspected and/or load tested at regular intervals not exceeding 12 monthly by a competent person.
- All lifting gear shall be inspected prior to use. If it is suspected of being defective, it shall be tagged with an 'Out of Service' tag and put in a bin for inspection, repair or disposal.
- The selection criteria for lifting gear shall be that the SWL rating is sufficient for the job.
- The load rating colours for lifting gear are:

Colour Code	Tonnes
Violet	1.0
Green	2.0
Yellow	3.0
Grey	4.0
Red	5.0
Brown	6.0
Blue	8.0
Orange	10.0 & over

Note: Pink signifies gear used for towing purposes only.

- When attaching slings to a load, where possible slings shall be loaded equally, and the maximum angle for pairs of choke hitched slings shall not exceed 45 degrees for a single wrap or 60 degrees for a double wrap.
- Damaged, corroded or excessively worn slings shall never be used. Any slings found in this condition shall be tagged with an 'Out of Service' tag and put aside for inspection, repair or disposal.
- Slings shall never be forced into position, dragged from under a load, placed directly on the ground under load (use dunnage), or slung over sharp edges without protective padding being provided.
- All slings shall be stored on suitable racks, shelves, pallets or hooks off the ground in a clean dry area.
- Any lifting gear that is used for towing purposes shall not be subsequently used for lifting. This shall be indicated as such by colour coding it pink.

## 6 REFERENCE DOCUMENTATION

Work Health and Safety Act 2011  
Work Health and Safety Reg's 2011

Australian Standards:

- AS 2359 *Lift trucks*
- AS 2393 *Vehicle jacks*
- AS 2615 *Trolley jacks*
- AS 2550 *Cranes – safe use*
  - Part 1: General requirements
  - Part 5: Mobile and vehicle loading cranes
  - Part 10: Elevating work platforms
- AS 1418 *Cranes (including hoists and winches), design specifications*
  - Part 1: General requirement
  - Part 3: Bridge gantry and portal cranes
  - Part 5: Mobile, vehicle loading cranes
  - Part 10: Elevating work platforms
- Various Australian Standards for Lifting Gear:
  - AS 2318 Swivels for hoists
  - AS 2321 Short-link chain for lifting purposes
  - AS 2741 Shackles
  - AS 2759 Steel wire rope, application guide
  - AS 3569 Steel wire ropes
  - AS 3775 Chain slings –Grade T
  - AS 3776 Lifting components for Grade T chain slings
  - AS 3777 Shank and large eye hooks
  - AS 4142 Fibre ropes
  - AS 1353 Flat synthetic-webbing slings
  - AS 2089 Sheave blocks for lifting purposes
  - AS 2317 Collared eyebolts
  - AS 2319 Rigging screws and turnbuckles
  - AS 2740 Wedge type sockets
  - AS 4497 Round slings-Synthetic fibre
  - AS 1666 Wire-rope slings