

<b>Title</b>	<b>Configure and use a mini-crawler crane with outriggers to lift and place regular and irregular loads</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>20</b>

<b>Purpose</b>	People credited with this unit standard are able to: prepare to lift and place regular and irregular loads with a mini-crawler crane; Sling regular and irregular loads with a mini-crawler crane; lift and place regular and irregular loads with a mini-crawler crane; prepare a mini-crawler crane for transport and stow away equipment after use and travel a mini-crawler crane.
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<b>Classification</b>	Cranes > Crane Operation
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<b>Available grade</b>	Achieved
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<b>Prerequisites</b>	Unit 3789, <i>Sling varied regular loads and safely direct a crane during crane operations</i> , or demonstrate equivalent knowledge and skills.
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## Guidance Information

- 1 All tasks are to be carried out in accordance with the equipment manufacturer requirements, applicable company procedures, and industry good practice found in the following sources:
  - a company quality management systems;
  - b requirements and guidelines consistent with the Health and Safety at Work Act 2015;
  - c equipment manufacturers' operating instructions;
  - d government and local government legislation, regulations, and bylaws;
  - e *Crane Safety Manual*, version 3.2 or higher, available from <http://shop.cranes.org.nz/>;
  - f *Approved Code of Practice for Cranes 2009* (3<sup>rd</sup> edition), and/or *Approved Code of Practice for Load-Lifting Rigging*, available from <https://worksafe.govt.nz/topic-and-industry/load-lifting-and-rigging>.
  
- 2 Definitions
 

*Company procedures* refer to instructions to staff on policy and procedures, which are documented in memo or manual format and are available in the workplace. These requirements may include but are not limited to – site specific requirements, company quality management requirements, Approved Codes of Practice and guidelines, and legislative requirements.

*Crane* – the definition as given in the Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeways) Regulations 1999.

*Industry good practice* – practice that meets the requirements of the Approved Code of Practice for Cranes, Approved Code of Practice for Load-lifting Rigging, and the Crane Safety Manual.

*Irregular loads* have one or more of the following characteristics – unequal weight distribution, eccentric loading, irregular shape and proportions, with or without set lifting points.

*Regular loads* have one or more of the following characteristics: uniform weight distribution, concentric loading, regular proportions, known lifting points, repetitively lifted.

### 3 Assessment

For the purposes of assessment, the mini-crawler crane must be within the 0.5 to 6 tonnes capacity range, and be set up to lift on outriggers. Any crawler crane that falls outside this range with a hydraulic boom requires the completion of Unit 3795, *Configure and position a mobile crane, and lift and place regular and irregular loads* and Unit 27676, *Configure a lattice boom track crawler crane to lift and place regular and irregular loads*.

Assessment must be carried out in a crane workplace or equivalent.

A minimum of two regular lifts and two irregular lifts with varied configurations must be observed by the assessor.

- 4 It is recommended that Unit 31904, *Plan and document lifts of regular and irregular loads using multiple cranes* is completed prior to assessment against this unit standard.

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## Outcomes and performance criteria

### Outcome 1

Prepare to lift and place regular and irregular loads with a mini-crawler crane.

### Performance criteria

- 1.1 Analyse the workplace to identify and document hazards and risks relating to the planned lift, and implement control measures so far as reasonably practicable.
- Range may include but is not limited to – vehicles, equipment, ground condition, underground services, overhead power lines, overhead service lines, communications, travel route, unsecured loads, type of loads; evidence must include six examples.
- 1.2 Pre-start check of the mini-crawler crane is carried out in accordance with manufacturer's requirements.
- 1.3 Load, weight and radius is assessed to determine whether it is within the lifting capacity of the crane.

1.4 The mini-crawler crane is located on a firm surface, levelled, and configured in accordance with manufacturer's requirements, company procedures and the *Crane Safety Manual*.

Range includes – crane placed in optimum position for lift, outriggers extended, turn over prevention device activated, work area cordoned off.

1.5 Complete a lift plan for the task using a mini-crawler crane in accordance with manufacturer's requirements and company procedures.

## Outcome 2

Sling regular and irregular loads with a mini-crawler crane.

### Performance criteria

2.1 The functions of critical components of a mini crawler crane and lifting equipment are described in accordance with equipment manufacturer's recommendations and company procedures.

Range includes but is not limited to – brakes, ropes, sheaves, load sensors, anti two-block, reset switch, alarm devices, hook block, boom, outriggers, hydraulic arms, remote control panel, electric power cables, control levers, slings, spreaders, hooks, shackles, purpose built lifting equipment; evidence of eight required.

2.2 Lifting and ancillary equipment are selected in accordance with company procedures, and the *Crane Safety Manual*.

Range lifting equipment includes but is not limited to – chain slings, wire rope slings, synthetic slings, shackles, hooks, purpose-built lifting equipment; minimum of three required.

2.3 Lifting and ancillary equipment are assessed for defects, and action is taken where defects are identified, and equipment log is completed; in accordance with the manufacturer's recommendations and industry good practice.

Range lifting equipment includes but is not limited to – chain slings, wire rope slings, synthetic slings, shackles, hooks, purpose-built lifting equipment; minimum of three required.

2.4 Load is slung in accordance with industry good practice.

2.5 Load is checked to ensure it is free of attachments and restraints in accordance with company procedures.

**Outcome 3**

Lift and place regular and irregular loads with a mini-crawler crane.

**Performance criteria**

- 3.1 Use a mini crawler to lift and place loads evenly, in accordance with crane manufacturer's and operator's manual, and industry good practice.

**Outcome 4**

Prepare a mini-crawler crane for transport and stow away equipment after use.

**Performance criteria**

- 4.1 Mini-crawler crane is positioned, stowed, and secured in accordance with crane operations manual and/or company procedures.

Range includes boom retracted and stowed, hook block set in transport mode position, outriggers retracted with safety lock pins in place; may include – electric power cables disconnected and stowed away.

- 4.2 Report any defects in crane and equipment in accordance with company procedures.

- 4.3 Lifting equipment is stowed in accordance with company procedures.

- 4.4 Crane is prepared for transport mode in accordance with manufacturer's recommendations, company procedures and work site rules.

- 4.5 Documentation is completed in accordance with company procedures.

Range documentation may include but is not limited to – logs, record of defects, job sheets, crane equipment inventories, maintenance requests, plant transfer sheet.

**Outcome 5**

Travel a mini crawler crane.

**Performance criteria**

- 5.1 The mini crawler is configured and set in accordance with the manufacturer's operating instructions prior to travel.

- 5.2 Travel route is assessed for hazards and obstructions, and controls are put in place.

- 5.3 The mini-crawler crane is travelled in accordance with manufacturer's operating instructions and company procedures and work site rules.

<b>Planned review date</b>	31 December 2024
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 October 2010	30 June 2013
Review	2	15 March 2012	31 December 2021
Review	3	26 September 2019	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0003
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Comments on this unit standard

Please contact The Skills Organisation [reviewcomments@skills.org.nz](mailto:reviewcomments@skills.org.nz) if you wish to suggest changes to the content of this unit standard.