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| Crane-12 | Configure and operate a mini- crawler crane to lift and place regular and irregular loads |  |

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| **Kaupae** | Level | 4 |
| **Whiwhinga** | Credit | 20 |
| **Whāinga** | Purpose | This skill standard recognises the skills to:* prepare to lift and place regular and irregular loads with a mini crawler crane
* sling regular and irregular loads
* lift and place regular and irregular loads
* prepare the crane for transport and stow away equipment after use
* travel the crane.

This skill standard aligns with the New Zealand Certificate in Cranes (Level 4) and may contribute to other programmes of study as appropriate. |
| **Whakaakoranga me mātua oti** | Pre-requisites | Crane 3 and Crane 9 are pre-requisites. Crane 16 is a co-requisite |

**Hua o te ako me Paearu aromatawai |** Learning outcomes and assessment criteria

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| **Hua o te ako |** Learning outcomes  | **Paearu aromatawai** | Assessment criteria |
| 1. Prepare to lift and place regular and irregular loads with a mini crawler crane.
 | 1. Workplace is analysed to identify hazards and risks related to the planned lift, and control measures are implemented.
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| 1. Crane is inspected and the crane controller is informed of any issues that may impact operation of the crane in line with manufacturers instructions or company procedures.
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| 1. Load, weight and radius are assessed to determine if it is within the lifting capacity of the crane.
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| 1. Crane is located on a firm surface, levelled, and configured according to manufacturer’s requirements and the Crane Safety Manual.
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| 1. Lift plan for the lifting tasks is completed according to manufacturer’s requirements.
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| 1. Sling, lift and place regular and irregular loads with a mini crawler crane.
 | 1. Lifting and ancillary equipment are selected according to the Crane Safety Manual.
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| 1. Lifting and ancillary equipment are assessed for defects, the equipment log is completed, and action is taken as required for any defects.
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| 1. Load is slung according to industry good practice, and checked to make sure it is free from attachments and restraints.
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| 1. Regular and irregular loads are lifted and placed evenly according to crane manufacturers and operator’s manual, and industry good practice.
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| 1. Prepare the mini crawler crane for road travel and stow away equipment after use.
 | 1. Crane is positioned, stowed, and secured according to crane operator’s manual.
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| 1. Any defects in the crane and equipment are identified and lifting equipment is stowed.
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| 1. Crane is prepared for road travel mode according to manufacturer’s requirements and worksite rules.
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| 1. Maintenance and travel documentation is completed as required.
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| 1. Travel a mini crawler crane.
 | 1. Crane is configured and set before travel according to manufacturer’s requirements.
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| 1. Travel route is assessed for hazards and obstructions, and controls are put in place.
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| 1. Crane is travelled according to manufacturer’s requirements and worksite rules.
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**Pārongo aromatawai me te taumata paearu** | Assessment information and grade criteria

Assessment specifications:

Hazards and risks related to the planned lift may include vehicles, equipment, ground condition, underground services, overhead power lines, overhead service lines, communications, travel route, unsecured loads, types of loads.

Configuration of the crane includes placement in optimum position for the lift, outriggers extended, turn over prevention device activated, work area cordoned off.

Lifting equipment includes chain slings, wire rope slings, synthetic slings, shackles, hooks, purpose-built lifting equipment.

Positioning, stowing and securing of the crane includes boom retracted and stowed, hook block set in transport mode position, outriggers retracted with safety lock pins in place; and may include electric power cables disconnected and stowed away.

Documentation may include logs, record of defects, job sheets, crane equipment inventories, maintenance requests, plant transfer sheet.

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

*Irregular loads* include 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 the characteristics of uniform weight distribution, concentric loading or regular proportions, known lifting points, repetitively lifted.

For the assessment:

* The mini crawler crane must be within the 0.5 to 6 tonnes capacity range and be set up to lift on outriggers.
* At least two regular lifts and two irregular lifts with varied configurations must be observed by the assessor.

**Ngā momo whiwhinga** | Grades available

Achieved.

**Ihirangi waitohu** | Indicative content

* Functions of critical components of a mini crawler crane and lifting equipment (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).

**Rauemi |** Resources

Crane Programme Guidance, available from qualifications@waihangaararau.nz.

Approved Code of Practice for Cranes, available from [www.worksafe.govt.nz](http://www.worksafe.govt.nz).

Crane Safety Manual: For Crane Operators & Dogmen (Crane Association of New Zealand), available from [www.cranes.org.nz](http://www.cranes.org.nz).

**Pārongo Whakaū Kounga |** Quality assurance information

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| **Ngā rōpū whakatau-paerewa |** Standard Setting Body | Waihanga Ara Rau Construction and Infrastructure Workforce Development Council |
| **Whakaritenga Rārangi Paetae Aromatawai |** DASS classification | Service Sector > Cranes > Crane Operation |
| **Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga |** CMR | 0025 |

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| **Hātepe |** Process | **Putanga |** Version | **Rā whakaputa |** ReviewDate | **Rā whakamutunga mō te aromatawai |** Last date for assessment |
| **Rēhitatanga |** Registration | 1 | dd mm 2024 | N/A |
| **Kōrero whakakapinga |** Replacement information | N/A |
| **Rā arotake |** Planned review date | 31 December 2029 |

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihangaararau.nz to suggest changes to the content of this skill standard.