



Australian Government

Department of Education, Employment and Workplace Relations

MEM11024A Undertake basic rigging

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit of competency applies to basic rigging in a manufacturing or related enterprise. It includes rigging work associated with movement of plant and equipment and temporary or permanent steel structures, such as platforms, access ways and ladders, hoppers and bins, and conveyors.

Application of the Unit

This unit requires the learner to be able plan the work, select and inspect equipment, set up tasks, and erect and/or dismantle the required equipment or structures. Work will often be required to be undertaken with other employees especially tradespersons, bridge and gantry and mobile crane drivers, and doggers.

This unit does not cover the slinging of loads which is covered in MEM11004B Undertake dogging, or the skills associated with fabrication and welding of metal structures or components. Where erection, alteration or dismantling of scaffolding is undertaken, the units MEM11001C Erect/dismantle scaffolding and equipment, or MEM11002C Erect/dismantle complex scaffolding and equipment, should be selected.

While this unit applies to work covered by licensing requirements, it also includes other manufacturing related skills, such as integrating rigging with welding, fabrication, production, jobbing, maintenance or warehouse operations.

This unit is not recognised by regulators for licensing requirements. In order to satisfy licensing requirements, the imported unit CPCCLRG3001A Licence to perform rigging basic level will be required.

Band A

Unit Weight 4

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MEM11004B	Undertake dogging
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Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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| 1 Assess rigging site | <ul style="list-style-type: none">1.1 Rigging to be undertaken is identified and assessed from supervisor's instructions, drawings and other appropriate sources1.2 Equipment and processes in close proximity to rigging site are identified and need for protection, shielding or closure during rigging identified with appropriate personnel1.3 Other potential workplace hazards and appropriate hazard control measures are identified1.4 Site information is obtained1.5 Rigging equipment and associated equipment, including safety equipment available on site, is identified |
| 2 Plan rigging work | <ul style="list-style-type: none">2.1 All forces and loads associated with erecting and dismantling structures and associated equipment are considered in consultation with appropriate personnel2.2 Required safety equipment for rigging task is identified2.3 Procedures for minimising disruption to other site processes are considered2.4 Appropriate communication methods are identified with appropriate personnel |

- 3 Select and inspect equipment
 - 3.1 Rigging equipment and associated equipment is selected and inspected according to procedures and the appropriate standard
 - 3.2 Required safety equipment is selected and inspected according to procedures
 - 3.3 All defective rigging equipment, associated equipment and safety equipment is isolated, reported and recorded according to procedures
 - 3.4 Where applicable, communication equipment is selected and inspected for serviceability
- 4 Set up rigging task
 - 4.1 Appropriate hazard prevention or control measures are applied to the work area according to procedures
 - 4.2 Ground suitability is inspected and checked where appropriate
 - 4.3 Site information is reviewed and interpreted with appropriate personnel
 - 4.4 All forces and loads associated with erecting and dismantling structures and associated plant are determined and compared with planned forces and loads in consultation with appropriate personnel
 - 4.5 Required adjustments for actual forces and loads are made to rigging plan, rigging equipment, associated equipment and safety equipment
 - 4.6 Personal safety equipment is fitted and worn correctly
 - 4.7 Rigging equipment and associated plant are positioned for work application and stability according to procedures
 - 4.8 Methods of applying temporary connections using fibre rope are applied according to procedures and the appropriate standard
- 5 Erect, move or dismantle structures, plant or equipment
 - 5.1 Structures, plant or equipment are erected, moved or dismantled according to procedures and site information
 - 5.2 Stability of structures, plant or equipment is maintained during erection, movement or dismantling
 - 5.3 Where height work is required, safety procedures are followed, including safe and effective use of safety equipment
 - 5.4 Appropriate communication methods and communication

equipment are used to coordinate the rigging tasks

- 5.5 Associated plant and equipment are used according to procedures and the appropriate standard
- 5.6 Temporary guys, ties, propping and shoring, including flexible steel wire rope and tubing, are connected where required
- 5.7 Procedures are followed to minimise disruption to other site operations
- 5.8 The completed task is inspected according to the appropriate standard

6 Finalise rigging task

- 6.1 Approval for completion of rigging task is obtained according to site or enterprise procedures
- 6.2 Excess materials are removed from the work area, where applicable
- 6.3 Rigging equipment, associated equipment, safety equipment and associated plant used during rigging task are inspected for damage and defects
- 6.4 All defective rigging equipment, associated equipment, associated plant and safety equipment are isolated reported and recorded according to procedures
- 6.5 Rigging equipment and associated equipment are stored according to procedures and the appropriate standard
- 6.6 Hazard prevention/control measures are removed, where appropriate

Required Skills and Knowledge

Required knowledge includes:

- appropriate mathematical procedures for estimation and measurement of loads
- principles relating to all plant, equipment and structural stability
- types and functions of rigging, safety and associated equipment, including an understanding of their limitations
- organisational and workplace standards, requirements, policies and procedures for rigging
- the hierarchy of hazard identification and control
- sources of specialist knowledge and support in typical manufacturing sites, including engineers, technicians, tradespersons, and supervisors and managers
- relevant federal, state or territory and local government occupational health and safety (OHS) legislation, standards and codes of practice for undertaking rigging activities
- inspection and maintenance requirements of a wide range of appropriate plant and equipment in line with Australian standards or manufacturer specifications
- minimum clearance distances from powerlines or electrical equipment as determined by the relevant state or territory authority or electrical supply authority
- estimation of ground bearing pressures of the full range of soil types and associated ground conditions for setting up plant and equipment

Required skills include:

- calculating safe working load (SWL) and working load limit (WLL)
- erecting and dismantling, levelling, plumbing and stabilising associated plant, equipment and structures
- working safely at heights, including the correct application of safety equipment
- accurately interpreting basic drawings, sketches and site plans
- applying methods for making temporary connections of ropes using fibre and synthetic types
- applying methods of splicing and whipping fibre and synthetic ropes
- correctly applying and using all rigging and associated equipment
- working with tradespersons on manufacturing related installation and removal of structures, plant and equipment
- applying risk assessment and hazard control strategies, including hierarchy of control
- interpreting manufacturer specifications for all plant and equipment use in rigging operations
- using interpersonal and communication skills at a level sufficient to determine site/workplace requirements, including the relevant communication methods and equipment
- verifying problems and equipment faults and demonstrate appropriate response

Evidence Guide

Overview of assessment	A person who demonstrates competency in this unit must be able to undertake rigging to industry and enterprise standards, manufacturer specifications, and in accordance with safety regulations and procedures.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of the ability to: • comply with OHS licensing legislation • effectively communicate and work safely with others in the work area, including tradespersons, doggers and crane operators • effectively conduct risk assessment and management procedures • effectively complete the following tasks: • inspection of relevant plant and equipment • installation of a fall arrest system (static line) • use of a safety harness/fall arrest system • installation of a safety net • installation safety screens • work safely at heights • erect and dismantle structures, • move and correctly locate plant and equipment • effectively demonstrate the following knots, bends and hitches: • sheet bend • becket hitch • running bowline • double bowline • effectively demonstrate the following splices and whippings: • eye splice • back splice • short splice • sail makers whipping • common whipping • west countryman's.
Context of and specific resources for assessment	• Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. • Assessors must ensure that the assessment in the workplace is organised to ensure that all the required

	equipment and materials and a suitable working area is made available to suit the assessment and the workplace. • Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints. • Assessment is to comply with the requirements of any relevant standards or operating procedures for basic rigging. • Applicants must have access to: • personal protective equipment for the purpose of the Performance Assessment • appropriate safety equipment in safe condition • appropriate rigging equipment, associated equipment associated plant in safe condition as described in the endorsed Assessment Instrument • communication equipment (e.g. two-way radios) where applicable • appropriate materials as required for safe erection of structures • appropriate materials for conducting fibre rope slicing, whipping, knots, bends and hitches.
Method of assessment	• The use of 'simulators' in the assessment of this unit of competency is not acceptable. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	

Range Statement

Hazards	Hazards may include, but are not limited to: • poor condition of ground surfaces and attachment points • utility related hazards, including powerlines and
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	conduits, gas and compressed air pipes, water and drainage services • site or external traffic (e.g. pedestrians and vehicles) • proximity to operating machinery unable to be stopped/isolated, including conveyors, boilers and transformers • restricted access • insufficient lighting • environmental conditions (e.g. wind, lightning and storms) • other specific hazards (e.g. proximity to dangerous materials)
Hazard control measures	Hazard control measures refer to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls consistent with appropriate standards. It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk: 1) elimination 2) substitution 3) isolation 4) engineering control measures 5) using safe work practices 6) personal protective equipment
Appropriate standards	Appropriate standards may include: • codes of practice • legislation • Australian standards • manufacturer specifications • industry and enterprise standards, where applicable
Site information	Site information may include, but is not limited to: • other work activities and equipment adjacent to or near area where rigging work is to be undertaken • location of services • ground surfaces and attachment points (e.g. concrete, steel plates and platform, columns and beams) • local conditions, such as access and egress • work method statements • site-specific job safety analyses and other site-specific documentation as required • task plans/schedules and structural plans

Procedures for minimising disruption	Procedures for minimising disruption may include: • in conjunction with crane operators and doggers, planning of routes for load movements to avoid workstations, operating machinery, and walkways and roadways • coordinating rigging with other processes/adjacent sections to minimise downtime • planning rigging for efficient use of shared resources (e.g. bridge and gantry cranes)
Forces and loads	Forces and loads may include, but are not limited to: • dead loads • live loads • static load • dynamic loads • wind loads
Structures	Structures may include, but are not limited to: • structural steel • steel plate and mesh • bins and hoppers • conveyor components • machinery and equipment • non-metallic equipment and components, including concrete, plastic and ceramic items, that need to be placed or erected on site
Associated plant	Associated plant may include, but is not limited to: • static lines • safety nets • temporary and permanent hoists • mast climbers • loading platforms
Appropriate personnel	Appropriate personnel may include, but are not limited to: • other riggers • engineers • supervisors • technicians • mechanical, electrical and fabrication tradespersons • crane operators and doggers • forklift drivers • other workplace personnel who are authorised to take responsibility for supervising or assisting the rigging operation

Rigging equipment	Rigging equipment may include, but is not limited to: • scaffolds • elevated work platforms • safety screens and shutters • cranes: • non-slewing cranes • mobile slewing cranes • vehicle loading cranes • bridge and gantry cranes • fixed and temporary hoists
Associated equipment	Associated equipment may include, but is not limited to: • all types of power and manually operated lifting gear • fibre ropes • flexible steel wire rope (FSWR) • chains • wire and synthetic slings • shackles • terminations • wedge sockets • eye bolts • beam clamps • plate clamps • rope grips • turnbuckles • rigging screws • chain blocks • lever blocks • lever-action winches • sheaves • spreader bars • lifting beams • jacks • levers • skates • wedges • rollers • girder trolley
Procedures	Procedures may include, but are not limited to: • manufacturer guidelines (instructions, specifications or checklists) • industry operating procedures, including relevant

	codes of practice workplace procedures (work instructions, operating procedures and checklists)
Safety equipment	Safety equipment may include, but is not limited to: - safety harness - energy absorber - lanyard - inertia reel - static safety lines - safety nets
Communication methods	Communication methods may include, but are not limited to: - verbal and non-verbal language - written instructions - signage - hand signals - listening - questioning to confirm understanding and appropriate worksite protocol NB: Mobile phones are not to be used for signalling purposes during the rigging process
Communication equipment	Communication equipment may include, but is not limited to: - fixed channel two-way radios - in-place intercom and other communication systems
Hazard prevention/control measures	Hazard prevention/control measures may include, but are not limited to: - safety tags on electrical switches/isolators - powerlines are insulated - safety observer used inside exclusion zone - power disconnected - traffic barricades and control - pedestrian barricades - trench covers - movement of obstructions - personal protective equipment - adequate illumination - safety shutters and screens

Ground suitability	Ground suitability may include, but is not limited to: • bitumen • concrete • suspended concrete floors • earth floor • building roofs • landings • ground bearing pressure
Temporary connections	Temporary connections may include, but are not limited to • knots • bends • hitches • spicing • whipping
Flexible steel wire rope (FSWR)	FSWR includes: • identification, uses and connections May include termination for: • static lines • guys • purchase systems • lashing • cranes • hoist and winch ropes

Unit Sector(s)

Materials handling

Custom Content Section

Not applicable.