



Australian Government

MEM11024 Undertake basic rigging

MEM11024 Undertake basic rigging

Modification History

Release	Comments
2	Unit code updated in Application to reflect status.
1	This unit of competency was first released in MEM Manufacturing and Engineering Release 2.0.

Application

This unit of competency defines the skills and knowledge required to undertake basic rigging in a manufacturing or related enterprise and includes rigging work associated with movement of plant and equipment and temporary or permanent steel structures, including: platforms, access ways and ladders, hoppers and bins, and conveyors. This work will often be required to be undertaken with other employees especially tradespersons, bridge and gantry and mobile crane drivers, and doggers.

While this unit applies to work covered by licensing requirements, it also includes other manufacturing related skills, including 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 CPCCLRG3001 Licence to perform rigging basic level will be required.

Where interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where erection, alteration or dismantling of scaffolding is required to be undertaken unit MEM11001 Erect/dismantle scaffolding and equipment and unit MEM11002 Erect/dismantle intermediate scaffolding and equipment, should also be selected as appropriate.

This unit does not cover the slinging of loads which is covered in unit MEM11004 Undertake dogging, or the skills associated with fabrication and welding of metal structures or components.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

Band: A

Unit Weight: 4

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite unit(s)

MEM11004	Undertake dogging
MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency field(s)

Materials handling

Unit sector(s)

N/A

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Identify rigging to be undertaken and assess from supervisor's instructions and other appropriate sources
2. Assess rigging site	2.1 Identify equipment and processes in close proximity to rigging site and the need for protection, shielding or closure during rigging with appropriate personnel 2.2 Identify other potential workplace hazards and appropriate hazard control measures 2.3 Obtain site information 2.4 Identify rigging equipment and associated equipment, including safety equipment available on site

3. Plan rigging work	3.1 Consider all forces and loads associated with erecting and dismantling structures and associated equipment in consultation with appropriate personnel 3.2 Identify required safety equipment for rigging task 3.3 Consider procedures for minimising disruption to other site processes 3.4 Identify appropriate communication methods with appropriate personnel
4. Select and inspect equipment	4.1 Select rigging equipment and associated equipment and inspect according to SOPs and the appropriate standard 4.2 Select required safety equipment and inspect according to SOPs 4.3 Isolate all defective rigging equipment, associated equipment and safety equipment and report and record according to SOPs 4.4 Select, as applicable, communication equipment and inspect for serviceability
5. Set up rigging task	5.1 Apply appropriate hazard prevention or control measures to the work area according to SOPs 5.2 Inspect ground suitability and check, where appropriate 5.3 Review site information and interpret with appropriate personnel 5.4 Determine all forces and loads associated with erecting and dismantling structures and associated plant and compare with planned forces and loads in consultation with appropriate personnel 5.5 Make required adjustments for actual forces and loads to rigging plan, rigging equipment, associated equipment and safety equipment 5.6 Position rigging equipment and associated plant for work application and stability according to SOPs 5.7 Apply methods of applying temporary connections using fibre rope according to SOPs and the appropriate standard
6. Erect, move or dismantle structures, plant or equipment	6.1 Erect structures, plant or equipment, move or dismantle according to SOPs and site information 6.2 Maintain stability of structures, plant or equipment during erection, movement or dismantling

	6.3 Follow safety procedures where height work is required, including safe and effective use of safety equipment 6.4 Use appropriate communication methods and communication equipment to coordinate the rigging tasks 6.5 Use associated plant and equipment according to SOPs and the appropriate standard 6.6 Connect temporary guys, ties, propping and shoring, including flexible steel wire rope and tubing, as required 6.7 Follow procedures to minimise disruption to other site operations 6.8 Inspect the completed task according to the appropriate standard
7. Finalise rigging task	7.1 Obtain approval for completion of rigging task according to site or enterprise procedures 7.2 Remove excess materials from the work area, as applicable 7.3 Inspect rigging equipment, associated equipment, safety equipment and associated plant used during rigging task for damage and defects 7.4 Isolate all defective rigging equipment, associated equipment, associated plant and safety equipment, report and record according to SOPs 7.5 Store rigging equipment and associated equipment according to SOPs and the appropriate standard 7.6 Remove hazard prevention/control measures, as appropriate

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Hazards include one (1) or more of the following:	• poor condition of ground surfaces and attachment points • utility related hazards, including powerlines and 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 include the following:	• the systematic process of eliminating or reducing the risk to personnel and property through the application of controls consistent with appropriate standards • 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 (PPE)
Appropriate standards include one (1) or more of the following:	• codes of practice and legislation • Australian Standards • manufacturer specifications • industry and enterprise standards, where applicable

Site information includes one (1) or more of the following:	• 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 include the following:	• 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 include the following:	• dead loads • live loads • static load • dynamic loads • wind loads
Structures include one (1) or more of the following:	• 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 includes one (1) or more of the following:	• static lines • safety nets • temporary and permanent hoists • mast climbers • loading platforms
Appropriate personnel include one (1) or more of the following:	• 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 includes one (1) or more of the following:	• 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 includes one (1) or more of the following:	• 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 include one (1) or more of the following:	• manufacturer guidelines (instructions, specifications or checklists) • industry operating procedures, including relevant codes of practice • workplace procedures (work instructions, operating procedures and checklists)

Safety equipment includes the following:	• safety harness • energy absorber • lanyard • inertia reel • static safety lines • safety nets
Communication methods include one (1) or more of the following:	• verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding and appropriate worksite protocol Note: Mobile phones are not to be used for signalling purposes during the rigging process
Communication equipment includes one (1) or more of the following:	• fixed channel two-way radios • in-place intercom and other communication systems
Hazard prevention/control measures include one (1) or more of the following:	• 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 includes one (1) or more of the following:	• bitumen • concrete • suspended concrete floors • earth floor • building roofs • landings • ground bearing pressure
Temporary connections include one (1) or more of the following:	• knots • bends • hitches • splicing • whipping
Flexible steel wire rope (fswr) includes one (1) or more of the following:	Identification, uses, connections and termination (if applicable) of one or more of the following: • static lines • guys • purchase systems • lashing • cranes • hoist and winch ropes

Unit Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
MEM11024 Undertake basic rigging	MEM11024A Undertake basic rigging	Supersedes and is equivalent to MEM11024A Undertake basic rigging	Equivalent

Assessment Requirements for MEM11024 Undertake basic rigging

Modification History

Release	Comments
2	Unit code updated in Application to reflect status.
1	This unit of competency was first released in MEM Manufacturing and Engineering Release 2.0.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting basic drawings, sketches and site plans, manufacturers' specifications and data for all plant and equipment used in rigging operations
- complying with work health and safety (WHS) licensing legislation
- communicating and working safely with others, including tradespersons, doggers and crane operators in the work area
- conducting risk assessment and management procedures
- calculating safe working load (SWL) and working load limit (WLL)
- inspecting relevant plant and equipment to ensure it is safe working condition
- installing and using safety equipment in accordance with SOPs
- demonstrating preparation of temporary connections
- working safely at heights, including the correct application of safety equipment
- erecting and dismantling structures,
- moving and correctly locating plant and equipment
- demonstrating the following knots, bends and hitches:
 - sheet bend, becket hitch, running bowline and double bowline
- demonstrating the following splices and whippings:
 - eye, back and short splice
 - sail makers and common whipping

- west countryman's.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- 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
- 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 WHS 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
- hierarchy of hazard identification and control
- 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.

Assessment Conditions

- Assessors must:
 - have vocational competency in undertaking basic rigging at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills

- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Link

Companion volumes, including implementation guides, are found on the national training register - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=45a7f1d5-61a5-447a-9688-7abbd7e1a5c7>.