



Australian Government

MARC029 Perform rigging on board a vessel

Release: 1

MARC029 Perform rigging on board a vessel

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills, knowledge required to perform basic rigging operations and to use associated equipment in the maritime industry.

This unit applies to an Integrated Rating or Able Seafarer-Deck who applies safe work practices when undertaking basic rigging on a range of vessels.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Equipment Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Rig and maintain personnel and pilot access ways

2 Perform tasks aloft and over vessel's

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Personnel access equipment is correctly rigged according to shipboard practices and recognised standards

1.2 Requirements and recommendations for safe access by alternative means are identified and organised, according to shipboard practices and recognised standards

2.1 Site and equipment for working aloft and over the side are prepared according to shipboard practices and recognised

side		standards
	2.2	Required precautions are taken when working aloft or over the side
	2.3	Chairs, stages, safety harnesses and appropriate safety equipment are used, according to shipboard practices and recognised standards
	2.4	Portable ladders are correctly used and maintained
	2.5	Equipment used when working aloft and over the side is correctly maintained and stored
3 Lash and secure cargo	3.1	Lashing equipment is inspected and maintained according to shipboard practices and recognised standards
	3.2	Faulty lashing equipment is identified and isolated, reported and maintained according to shipboard practices and recognised standards
	3.3	Cargo is lashed and secured according to shipboard practices and recognised standards
	3.4	Appropriate consideration is given to effects of vessel's motion on stowed cargo when lashing cargo
	3.5	Lashing equipment is correctly stored after use
	3.6	Loads are correctly rigged using appropriate ropes and rigging gear, according to procedures and safety requirements

Foundation Skills

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

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Personnel access

- accommodation ladders

- equipment includes one or more of the following:
- brows
 - gangways
 - man baskets
 - pilot ladders
 - combined pilot accommodation ladders and pilot hoists
- Cargo to be lashed includes one or more of the following:
- containers
 - general cargo
 - roll-on-roll-off vehicles
 - timber deck cargo

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>

Assessment Requirements for MARC029 Perform rigging on board a vessel

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- adapting to differences in vessels, equipment and standard operating procedures
- applying basic rigging operations and using associated equipment according to safe working practices including:
 - checking and using rigging gear when rigging loads
 - lashing cargo, in a range of situations
 - using and maintaining ropes, wires and chains
 - splicing natural fibre and synthetic ropes
 - rigging accommodation ladders, gangways and man baskets
 - rigging and unrigging pilot ladders and hoists
 - rigging a sea anchor to control a specified rate and direction of drift and/or angle to sea
- applying basic rigging operations under normal and adverse conditions of sea and weather:
 - during berthing and unberthing operations
 - while anchoring or mooring
 - when berthed, anchored or moored
 - while underway
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- communicating with other personnel using effective:
 - listening techniques
 - questioning to confirm understanding
 - verbal and non-verbal language
- completing work systematically with required attention to detail
- complying with relevant maritime regulations
- following required work schedule according to company requirements
- reading and applying instructions, safety and standard operating procedures and precautions including:
 - shipboard rigging procedures
 - International Safety Management (ISM) Code safety management system (SMS) procedures
 - WHS/OHS regulations and hazard prevention policies and procedures
 - manufacturer guidelines
 - housekeeping processes
- recognising routine problems during rigging operations on a vessel
- selecting and using rigging and lifting slings and equipment according operating instructions
- taking action to promptly report and/or rectify accidents, safety incidents and operational problems, according to regulations and procedures
- tying required knots and demonstrating rope handling skills including:
 - becket/buntline hitch

- clove hitch
- common seizing
- common whipping
- double sheet bend
- eye splice
- figure of eight
- marlin spike hitch
- racking seizing
- reef knot
- rolling hitch
- sail maker's whipping
- sheet bend
- sheep shank
- short splice
- timber hitch
- truckie hitch
- west country whipping
- working safely and collaboratively with others during rigging operations on a vessel.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- applicable sections of relevant maritime regulations
- breaking strain and safe working load for slings and equipment
- legal requirements for constructing a pilot ladder
- maintenance and storage procedures for equipment used when working aloft or over the side
- maritime communication techniques
- precautions and procedures for working aloft and over the side
- principles and procedures for lashing and securing cargo, including inspection and maintenance requirements for lashing equipment
- principles of rigging equipment, deterioration and care, and maintenance requirements for different types of rope and wire
- procedures for rigging and preparing personnel access ways
- procedures for rigging and unrigging pilot ladders, hoists, rat-guards and gangways
- procedures for splicing natural fibre and synthetic ropes
- relevant WHS/OHS requirements and work practices
- type and function of rigging, safety and associated equipment, and their limitations
- types of knots, bends and hitches in common use, their characteristics, applications and limitations, and methods of tying them using synthetic and fibre rope of varying construction and size.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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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.

Assessment must occur in workplace operational situations where basic rigging operations can be demonstrated. Where this is not available, assessment must occur in a simulated workplace operational situation that replicates workplace conditions.

Resources for assessment include access to:

- a suitable range of rigging and cargo lashing exercises, case studies and associated resources
- relevant materials, tools, personal protective equipment and equipment that replicate and are currently used in industry for working aloft and over the side including:
 - a range of power and manually operated lifting gear
 - chains, shackles and slings
 - clamps, blocks, eye bolts, turnbuckles, terminators
 - lifting and rigging ropes and hardware
 - gantlines
 - safety harnesses
 - stage
- applicable documentation such as workplace procedures, regulations, legislation, codes of practice and operation manuals including:
 - ISM Code SMS plans, procedures, checklists and instructions
 - relevant international, national, state/territory WHS/OHS legislation
 - relevant Australian and International Standards and regulations
 - supervising engineer orders and instructions
 - vessel and company procedures.

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