



Australian Government

MARN009 Perform seamanship operations on board a vessel up to 24 metres

Release: 2

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Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. New unit of competency. Licensing/regulatory information has been incorporated in accordance with Regulatory requirements. Assessment Requirements have been strengthened in accordance with Regulatory requirements.

Application

This unit involves the skills and knowledge required to apply practical seamanship skills and techniques as part of operations on board a vessel up to 24 metres.

This unit applies to people working in the maritime industry in the capacity of:

- Master up to 24 metres Near Coastal
- Master Inland Waters.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Master Inland Waters and Master up to 24m Near Coastal as specified in Marine Order 505.

Seafarers seeking certification should check with AMSA.

Pre-requisite Unit

Not Applicable.

Competency Field

N – Seamanship

Unit Sector

Not Applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Use and maintain ropes and wires

- 1.1** Knots, hitches and bends using rope are correctly made and used in the course of operations on board a vessel
- 1.2** Ropes are spliced neatly and securely according to their correct application and rope ends are whipped, where appropriate, to maintain good condition
- 1.3** Breaking strain and safe working loads of rope and wire are determined and applied as load limits in the course of operations on board a vessel
- 1.4** Wear and damage to rope and wire are recognised
- 1.5** Rope and wire are maintained and stored according to organisational procedures

2 Operate lifting gear

- 2.1** Lifting gear is checked and prepared for operation prior to use
- 2.2** Defective lifting gear is isolated and reported according to organisational procedures
- 2.3** Loads are correctly attached using appropriate slings and rigging gear according to organisational procedures and safety requirements
- 2.4** Maximum and safe working load limits are determined and not exceeded
- 2.5** Lifting gear is safely operated to carry out operations

3 Secure vessel at anchor

- 3.1** Prior to letting go, anchor and equipment are prepared and crew is briefed
- 3.2** Quantity of anchor cable run out or recovered is appropriate to depth of water, weather and sea conditions, and tidal range in area of operation
- 3.3** Control of cable is maintained within safe operating limits during anchoring operations
- 3.4** Degree to which anchor and equipment are secured on completion of anchoring operations is appropriate to

		forecast conditions
	3.5	Anchoring area is kept free of loose ropes, wires and debris during all operations
4 Secure vessel at a berth	4.1	Mooring lines and associated equipment are handled safely at all times
	4.2	Mooring area is kept free of loose ropes, wires and debris throughout operations
	4.3	Tension on ropes is maintained at an appropriate level for stage and nature of the operation
	4.4	Tension on shore-power leads and other umbilicals is monitored
5 Check condition and seaworthiness of vessel	5.1	Coverage and frequency of checks and inspections on vessel seaworthiness are undertaken according to organisational procedures
	5.2	Watertight integrity is checked and appropriate action is taken to prepare for prevailing and forecast weather and sea conditions according to vessel seaworthiness plans and regulatory requirements
	5.3	Vessel is secured to degree which is appropriate to prevailing and forecast conditions
	5.4	Irregularities are identified and appropriate action is taken to rectify the situation
	5.5	Irregularities beyond ability to rectify are reported in time to enable remedial action to be taken
	5.6	Reports of vessel condition are completed according to organisational procedures
6 Check stability of vessel	6.1	Information from vessel stability data book is used to determine loading limits and displacement from draft
	6.2	Stability conditions for proposed nature of voyage and operations are confirmed and required stress and stability criteria are met
7 Perform tasks aloft and over vessel side	7.1	Area and equipment for working aloft or over the side are prepared according to organisational procedures
	7.2	Required precautions are taken when working aloft or over the side

- 7.3 Chairs, safety harnesses and appropriate safety equipment are used according to organisational procedures
 - 7.4 Portable ladders are used correctly to perform tasks
 - 7.5 Tasks are completed safely according to instructions
 - 7.6 Equipment is inspected, maintained and stored after use according to organisational procedures
- 8 Lash and secure stores, cargo and access ways**
 - 8.1 Lashing equipment is inspected, maintained and correctly stored after use according to organisational procedures
 - 8.2 Cargo is stowed according to recognised principles and organisational procedures relating to transport and handling of dangerous goods
 - 8.3 Cargo is lashed and secured according to recognised principles and organisational procedures
 - 8.4 Equipment and items on deck and in galley spaces are secured according to organisational procedures
 - 8.5 Personnel access ways are rigged and secured according to organisational procedures
 - 8.6 Accommodation spaces and personnel facilities on board vessel are checked and correctly secured for sea according to organisational procedures
- 9 Supervise refuelling operations**
 - 9.1 Personal protective equipment (PPE) is accessed and used
 - 9.2 Amount of fuel required is calculated
 - 9.3 Instructions are provided to ensure safety boundary for refuelling process is established
 - 9.4 Spill prevention systems are correctly deployed
 - 9.5 Instructions are provided to ensure refuelling operations are performed safely
 - 9.6 Notification of intention to refuel is made to authorities and other nearby operations

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.

Unit Mapping Information

This unit replaces and is equivalent to MARN003 Perform seamanship operations on board a vessel up to 24 metres.

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 MARN009 Perform seamanship operations on board a vessel up to 24 metres

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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 and performance criteria on at least one occasion and include:

- anchor a vessel according to depth and prevailing winds
- applying work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- checking seaworthiness of vessel
- completing basic stability calculations
- correctly coiling and stowing ropes
- correctly interpreting vessel stability data
- maintaining watertight integrity of vessel
- performing an eye splice on natural and synthetic fibre rope
- performing appropriate whippings on ropes and line
- preparing and throwing a heaving line
- preparing for and anchoring vessel according to depth and prevailing winds
- recognising damaged or worn ropes, wires and chains
- safely handling ropes and wires
- safely operating winches or windlasses and capstans
- safely using:
 - blocks
 - drum ends or capstans
 - eye bolts and shackles
 - hooks
 - swivels
 - wires, ropes and chains
- securing anchor and equipment on completion of anchoring operations

- securing vessel at its berth according to operational requirements and prevailing conditions
- tying figure-eight knot, reef knot, bowline, single and double sheet bend, half hitch, clove hitch, round turn and two half hitches, and rolling hitch using natural or synthetic fibre rope
- using portable ladders to access heights up to 1.8 metres.

Knowledge Evidence

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

- anchoring principles and methods for different conditions
- basic principles of stability
- basic structural parts of a small vessel
- communication techniques when operating lifting gear
- construction of vessel sufficient to understand which areas need to be made watertight
- correct application of common knots and hitches
- correct use and maintenance of equipment used for working aloft and over the side
- correctly slinging loads ready for lifting
- coverage and frequency of checks of vessels seaworthiness
- dangers of working with ropes under tension
- different types of anchors and where they can be most effectively used
- effect of design and hull on vessel stability
- effects on stability of:
 - adding and removing weights
 - additions or alterations to original vessel configuration
 - hauling nets using power block
 - slack tanks
 - snagged trawl (hook up)
 - transferring weights using a crane or other lifting devices
 - water on deck
- how to make vessel watertight
- inspection and maintenance of harnesses, safety lines and other equipment for working aloft
- irregularities in the condition and seaworthiness of the vessel affecting the safety and integrity of the vessel, it's equipment and materials/cargo on board
- irregularities in the condition and seaworthiness of the vessel affecting the safety of crew and passengers
- maintenance of different types of rope, wire and chain
- method of calculating breaking strain and safe working load for ropes and equipment
- methods of securing cargo
- precautions to take when working aloft or over the side
- principles and limitations of lifting equipment and components
- principles of International Maritime Dangerous Goods (IMDG) code
- procedures for checking and operating lifting equipment

- procedures for refuelling vessel with due regard to regulations and organisational procedures
- process for checking bow doors (barges) for seaworthiness
- providing the required amount of detail in reports
- regulations affecting watertight integrity
- roll period and stiff and tender vessels
- routine and emergency operation of anchors
- safely working aloft or over the side
- securing methods for a vessel at sea, including:
 - accommodation and storage spaces
 - anchors
 - doors
 - engine room
 - galley stores and equipment
 - hatches
 - large objects likely to move in a sea way
 - materials on deck and below
 - navigation lights
 - personnel facilities
 - tanks
- selection and safe use of appropriate rigging and lifting gear, including:
 - blocks (including chain blocks and power blocks)
 - drum ends or capstans
 - eye bolts and shackles
 - hooks
 - lifting device
 - slings and chains
 - wires, ropes and chains
- use of sea anchors
- using stability book to determine loading limits and displacement from draft
- WHS/OHS requirements and work practices.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the

normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, safety management system (SMS), workplace procedures, operational manuals and stability booklets
- a commercial vessel greater than or equal to 7.5 m in length
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

Links

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