



Australian Government

MARK4001A Manoeuvre a vessel up to 80 metres

Release 1

MARK4001A Manoeuvre a vessel up to 80 metres

Modification History

Release 1

This is the first release of this unit.

This unit replaces and is equivalent to TDMMC507B Manoeuvre a vessel within limits of responsibility of a Master 4.

Unit Descriptor

This unit involves the skills and knowledge required to manoeuvre a vessel up to 80 metres.

Application of the Unit

This unit applies to people working in the maritime industry in the capacity of Master on a range of vessels up to 80 metres.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|---|---|
| 1 Manoeuvre vessel in normal conditions | <ul style="list-style-type: none">1.1 <i>Features of vessel</i> that relate to its handling characteristics are recognised1.2 Adequate resources are organised prior to and during operations1.3 Details of manoeuvres are communicated to relevant personnel clearly and concisely using standard maritime vocabulary1.4 Situational awareness is maintained to ensure safe manoeuvres1.5 <i>Manoeuvres</i> are completed in relevant conditions of tide and wind to meet passage requirements1.6 <i>Propulsion equipment</i> is used and monitored to assist in completing manoeuvres safely1.7 Appropriate alterations to vessel heading and power are made in response to operational environment1.8 Safe operating limits of propulsion and steering systems are not exceeded |
| 2 Manoeuvre vessel in adverse weather conditions | <ul style="list-style-type: none">2.1 Nature of <i>adverse weather conditions</i> is identified and implications for vessel operations are evaluated2.2 Preparations are made and required precautions are taken to minimise risk and damage to vessel, personnel and time loss on passage2.3 Manoeuvres are adjusted to allow for weather and sea conditions, and to keep vessel in safe water2.4 Propulsion equipment is used and monitored to assist in completing actions safely2.5 Heading is maintained within acceptable limits2.6 Appropriate allowance is made for effects of deadweight, draft, trim, speed and underwater keel clearances during turning circles and stopping distance2.7 Safe operating limits of propulsion and steering equipment are not exceeded2.8 Situational awareness is maintained at all times to review actions and ensure safety of vessel |

- | | |
|--|--|
| 3 Manoeuvre vessel in emergencies | <ul style="list-style-type: none">3.1 <i>Nature of emergency</i> is established and required action is determined3.2 Risks to vessel and safety of persons on board is assessed and safety of required action is confirmed3.3 Details of action are communicated to relevant personnel clearly and concisely using standard maritime vocabulary3.4 Appropriate manoeuvres are made during emergency to maintain safety of vessel and those on board, and any other vessels or persons involved3.5 Propulsion equipment is used and monitored to assist in completing actions safely3.6 Safe operating limits of propulsion and steering equipment are not exceeded3.7 Special handling techniques are correctly applied during launching of boats or life rafts and rescues of persons overboard |
| 4 Tow and be towed | <ul style="list-style-type: none">4.1 <i>Preparations for towing</i> are safely made according to established nautical practice4.2 <i>Correct towing procedures</i> and precautions are applied when towing and being towed |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required Skills:

- Anchor a vessel
- Handle a disabled or partially disabled vessel
- Issue helm and engine orders
- Manoeuvre a vessel in:
 - bad weather
 - in heavy swell and surf
 - crossing a bar
 - following and quartering seas
- Manoeuvre a vessel through:
 - berthing and leaving a berth and anchor work in various wind and tidal conditions
 - berthing and unberthing
 - coming to and leaving a mooring
 - person overboard
 - steering astern through an 's' configuration
 - towing and being towed
 - turn short around
 - turning a vessel across the tide across the wind
- Manoeuvre a vessel to embark or disembark a pilot
- Manoeuvre in shallow water
- Maintain situational awareness

Required Knowledge:

- Effects of displacement and planing hulls
- Effects of inboard propulsion units
- Effects of rudders and propellers
- Features of a vessel that relate to its handling characteristics
- Interaction with passing vessels, banks and shallow water
- Launching boats or life rafts
- Lessening drift and use of oil
- Manoeuvres assisting a vessel or aircraft in distress
- Manoeuvres to beach and refloat the vessel
- Manoeuvring characteristics
- Means of keeping a vessel out of a trough

- Methods of taking on board survivors from lifeboats and life rafts
- Precautions in manoeuvring or launching boats or life rafts in bad weather
- Procedures for towing and being towed
- Requirements for entering, departing and crossing a Traffic Separation Area
- Techniques for crossing a coastal bar with and against the sea
- Trim and displacement
- Use of a sea anchor
- Work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, the required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- manoeuvring a vessel in normal and emergency situations
- determining required action for a range of emergency situations
- knowledge of factors that could adversely affect vessel safety during operations.

Context of and specific resources for assessment

Performance is demonstrated consistently over time and in a suitable range of contexts.

Resources for assessment include access to:

- appropriate vessel up to 80 metres to demonstrate manoeuvring a vessel in normal and emergency situations
- tools, equipment and personal protective equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities
- range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Method of assessment

Practical assessment must occur in an:

- appropriately simulated workplace environment and/or
- appropriate range of situations in the workplace.

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate to this unit:

- direct observation of the candidate manoeuvring a vessel up to 80 metres
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

In all cases where practical assessment is used it should be combined with targeted questioning to assess Required Knowledge.

Assessment processes and techniques must be appropriate to the language and literacy requirements of the work being performed and the capacity of the candidate.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

Features of vessel may include:	• Displacement and planing hulls • Propulsion units • Rudders and propellers
Manoeuvres must include:	• Astern movements • Berthing and leaving a berth • Berthing in a pen • Coming to and leaving mooring • Positioning vessel to safely launch boats or life rafts in bad weather • Retrieval of person overboard • Turning short around • Turning vessel across tide and wind
Propulsion equipment may include:	• Inboard engine • Outboard engine • Inboard/outboard engine • Jet propulsion engine
Adverse weather conditions may include:	• Fog and restricted visibility • Wind and sea conditions that may affect safety of vessel
Nature of emergencies may include:	• Beaching • Collision • Damage to vessel • Disabled or partially disabled vessel • Fire • Grounding • Loss of steering gear • Person overboard
Preparations for towing may include:	• Ensuring appropriate lights and shapes for the tow are available and in working order • Ensuring means of communication between the two vessels is available • Ensuring tow ropes are in good condition and of adequate strength for proposed tow • Making appropriate reports are to authorities • Preparing messenger ropes for passing tow lines
Correct towing procedures may include:	• Ensuring tow line is of sufficient length • Making provision for rapid slipping of tow in emergency situations

- Making tow fast to towing vessel to ensure steerage is maintained

Unit Sector(s)

Not applicable.

Competency Field

Manoeuvring Vessels