



Australian Government

MARK3001A Manoeuvre a vessel up to 24 metres within near coastal waters

Release 1

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Modification History

Release 1

This is the first release of this unit.

This unit replaces and is equivalent to TDMMC807B Manoeuvre a vessel within the limits of responsibility of a Master 5.

Unit Descriptor

This unit involves the skills and knowledge required to manoeuvre a vessel of up to 24 metres in length within near coastal waters.

Application of the Unit

This unit applies to people working in maritime industry in the capacity of Master on a range of vessels up to 24 metres within near coastal waters. The limit of near coastal waters is the Exclusive Economic Zone (EEZ), which in Australia is 200 nautical miles.

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 Details of <i>manoeuvres</i> are communicated to relevant personnel clearly and concisely using standard maritime vocabulary1.3 <i>Situational awareness</i> is maintained to ensure safe manoeuvres1.4 Manoeuvres are completed to meet passage requirements1.5 <i>Propulsion equipment</i> is used and monitored to assist in completing manoeuvres safely1.6 Appropriate alterations to vessel heading are made in response to operational environment1.7 Safe operating limits of propulsion and steering equipment 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 the potential impact on the manoeuvrability of the vessel is determined2.2 <i>Appropriate action</i> is taken to ensure the safety of vessel2.3 Propulsion equipment is used and monitored to assist in completing actions safely2.4 Heading is maintained within acceptable limits2.5 Appropriate allowance is made for effects of deadweight, draft, trim, speed and underwater keel clearances during turning circles and stopping distance2.6 Safe operating limits of propulsion and steering equipment are not exceeded2.7 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 the emergency</i> is established and required action is determined3.2 Risks to the vessel and the safety of persons on board are assessed and safety of required action is confirmed3.3 Details of action are communicated to relevant personnel clearly and concisely using standard maritime vocabulary |

- 3.4 Appropriate manoeuvres are made during the emergency to maintain the safety of the vessel and those on board, and any other vessels or persons involved
 - 3.5 Propulsion equipment is used and monitored to assist in completing actions safely
 - 3.6 Safe operating limits of propulsion and steering equipment are not exceeded
- 4 Tow and be towed**
- 4.1 ***Preparations for towing*** are safely made according to established nautical practice
 - 4.2 ***Correct towing procedures*** 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
- Handle a disabled or partially disabled vessel
- Issue helm and engine orders
- Manoeuvre a vessel through:
 - berthing and leaving a berth in various wind and tidal conditions
 - berthing in a pen
 - coming to and leaving a mooring
 - person overboard
 - towing and being towed
 - turn short around
 - turning a vessel across the tide across the wind
- Manoeuvre a vessel to approach an anchorage
- Maintain situational awareness
- Manoeuvre to assist vessels in distress
- Use a sea anchor

Required Knowledge:

- Effects of displacement and planing hulls
- Effects of inboard propulsion units
- Effects of rudders and propellers
- Effects of interaction with passing or moored vessels
- Features of a vessel that relate to its handling characteristics
- Lessening drift and use of oil
- Launching boats or life rafts
- Manoeuvring characteristics of a vessel:
 - in heavy weather
 - in heavy swell and surf
 - crossing a bar
 - in a narrow channel or shallow water
- Manoeuvring a vessel astern
- Manoeuvring characteristics to beach and refloat the vessel
- Manoeuvring characteristics to assist a vessel or aircraft in search and rescue
- Means of keeping a vessel out of a trough

- Precautions in manoeuvring or launching boats or life rafts in bad weather
- Procedures for towing and being towed
- Techniques for crossing a coastal bar with and against the sea
- Trim and displacement
- 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:

- 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 24 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 24 metres in normal and emergency situations
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for

Holistic assessment with other units relevant to the industry

assessment

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 for helicopter evacuation • Positioning vessel to safely launch boats or life rafts in bad weather • Retrieval of person overboard • Turning a vessel across tide and wind • Turning short around • Williamson turn
Situational awareness may include:	• Other vessels in the vicinity of the manoeuvre • Own vessel position in relation to shallow water and other obstructions • Weather conditions that may affect the manoeuvre
Propulsion equipment may include:	• Inboard engine • Inboard/outboard engine • Jet propulsion engine • Outboard engine
Adverse weather conditions may include:	• Fog and restricted visibility • Wind and sea conditions that may affect the safety of the vessel
Appropriate action may include:	• Altering course to minimise the effect of wind and sea • Deploying a sea anchor to keep vessel head to sea • Heading to wind and sea to ride out the adverse weather • Reducing speed • Seeking shelter
Nature of the emergency may include:	• Beaching • Collision • Damage to the vessel • Disabled or partially disabled vessel • Fire • Grounding • Injury or death

Preparations for towing may include:

- Loss of steering gear
- Person overboard
- Crew briefings that include the task at hand and risks to persons on both vessels
- 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 the proposed tow
- Making appropriate reports to authorities
- Preparing messenger ropes for passing tow lines

Correct towing procedures may include:

- Ensuring tow line is of sufficient length to minimise shockloading on tow-line
- Making tow fast to the towing vessel to ensure steerage can be maintained
- Making provision for rapid slipping of the tow in emergency situations

Unit Sector(s)

Not applicable.

Competency Field

Manoeuvring Vessels