



Australian Government

Department of Education, Employment and Workplace Relations

TDMMC801A Manoeuvre a vessel less than 24 metres in length within inshore limits

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to manoeuvre a commercial vessel up to 24m in length within inshore limits. This includes the operation of small vessel propulsion systems and manoeuvring the small vessel during normal operations and adverse weather conditions, including berthing, mooring and anchoring.

The unit is consistent with the section in the Australian USL Code dealing with the competency requirements of a Master (Class 5).

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The unit is consistent with the section in the Australian USL Code dealing with the competency requirements of a Master (Class 5).

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element	Performance Criteria
1 Manoeuvre the small vessel for normal operations	1.1 Manoeuvres are made to safely progress the operation and keep the small vessel in safe water 1.2 Small vessel's heading is maintained within acceptable limits with respect to the requirements of the manoeuvre, weather, tide, headreach and stopping distances 1.3 Alterations of heading or power are smooth and controlled at all times 1.4 Communication is clear, concise and acknowledged at all times according to good seamanship 1.5 Suitable mode of steering is selected for the manoeuvre with respect to the area, wind and sea conditions 1.6 Suitable techniques are applied when manoeuvring in shallow water and narrow channels 1.7 Appropriate turn techniques are used during manoeuvres 1.8 Small vessel propulsion is controlled as required to progress the operation and complement helm movements 1.9 Safe operating limits of small vessel propulsion, steering and power systems are not exceeded in normal manoeuvres 0 1.1 Appropriate allowance is made for the effects of deadweight, draft, trim, speed and under keel clearance on turning circles and stopping distance 1 1.1 Correct procedures are adopted when crossing a bar 2 1.1 Anchoring and mooring manoeuvres are carried out in accordance with safe nautical practice 1.1 Adequate resources are organised prior to and

- 3 during operations
- 2 Handle small vessel when under way
 - 2.1 The effects on small vessel performance of shallow and restricted waters, tidal and wind conditions and passing ship's and own vessel's bow and stern waves are regularly evaluated and the implications for small vessel handling assessed
 - 2.2 Appropriate alterations to small vessel heading and power are made in response to assessments of the vessel's operational environment
 - 2.3 Special handling techniques are correctly applied during rescues of persons overboard or adverse sea and weather conditions
 - 2.4 Correct manoeuvres are used when launching boats or life rafts
- 3 Manoeuvre small vessel during adverse weather conditions
 - 3.1 Impending adverse weather and/or ice conditions are identified and the implications for small vessel operations are evaluated
 - 3.2 Preparations are made and required precautions are taken to minimise risk and damage to small vessel and personnel and time loss on passage within the limits of the officer's responsibility
 - 3.3 Manoeuvres are adjusted to allow for weather and sea conditions to safely progress the operation and keep the small vessel in safe water
 - 3.4 Small vessel's heading is maintained within acceptable limits with respect to the requirements of the manoeuvre and the prevailing weather and sea conditions
 - 3.5 Special handling techniques required under heavy weather conditions are used when necessary

Required Skills and Knowledge

Not applicable.

Evidence Guide

Critical aspects of evidence to be considered

Assessment must confirm appropriate knowledge and skills to:

Manoeuvre the small vessel:

- safely in both normal situations
- in normal and adverse weather conditions
- when underway
- in berthing and unberthing operations
- when anchoring or mooring

Exercise all required safety and hazard control procedures when manoeuvring the small vessel

Identify typical manoeuvring problems and take appropriate action

Communicate effectively with others during manoeuvring operations.

Interdependent assessment of units

This unit of competency must be assessed in conjunction with other mandatory units that form part of a job role of master on a small vessel up to 24 m in length operating within inshore limits.

Required knowledge and skills

Knowledge of relevant maritime regulations

Relevant OH&S legislation and policies

Limits of responsibility of a master of a small vessel up to 24 m in length operating within inshore limits

Methods for controlling small vessel speed and direction

Small vessel turn techniques including Williamson turn and short turn around

Techniques for turning a small vessel across the tide across the wind

Manoeuvring characteristics and propulsion system operational techniques for vessels up to 24 m in length operating within inshore limits, including stopping distances and turning circles at various draughts, speeds and loading

Effects of rudders and propellers on small boat performance

Effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances

Manoeuvring procedures for small vessels during adverse sea and weather conditions

Manoeuvres for a small vessel to approach an anchorage

Squat, shallow water, narrow channel and similar effects on small vessel's handling

Effects on small vessel handling of wind, currents and bottom topography

Typical manoeuvring problems for small vessels up to 24 m in length operating within inshore limits, and appropriate action and solutions

Interaction effects with passing and moored vessels and appropriate manoeuvring procedures to be applied

Manoeuvring procedures when launching lifeboats and life rafts

Methods for recovering a person from the water

Maritime communication techniques, including issuing of helm and engine orders and tug communications.

Resource implications

Access is required to opportunities to either:

operate a suitable small vessel simulator over an appropriate range of simulated manoeuvring situations, weather and loading conditions; and/or

manoeuvre a vessel up to up to 24 m in length on coastal voyages.

Consistency in performance

Applies underpinning knowledge and skills when:

completing manoeuvring operations for a small vessel

identifying and evaluating manoeuvring problems and determining appropriate courses of action

applying safety precautions relevant to manoeuvring operations for small vessels

assessing operational capability of small vessel and propulsion system and associated equipment.

Shows evidence of application of relevant workplace procedures including:

relevant maritime regulations

OHS regulations and hazard prevention policies and procedures

job procedures and work instructions

relevant manufacturer's guidelines relating to the use of propulsion system and associated equipment, including instructions on equipment capability and limitations.

Action taken promptly to report and/or resolve manoeuvring incidents.

Work is completed systematically with required attention to detail.

Context for assessment

Assessment of competence must comply with the assessment requirements of the relevant maritime regulations.

Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:

As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations

Appropriate practical assessment must occur:

at the registered training organisation, and/or

on an appropriate working or training vessel.

Critical aspects of evidence to be considered

Assessment must confirm appropriate knowledge and skills to:

Manoeuvre the small vessel:

safely in both normal situations

in normal and adverse weather conditions

when underway

in berthing and unberthing operations

when anchoring or mooring

Exercise all required safety and hazard control procedures when manoeuvring the small vessel

Identify typical manoeuvring problems and take appropriate action

Communicate effectively with others during manoeuvring operations.

Interdependent assessment of units

This unit of competency must be assessed in conjunction with other mandatory units that form part of a job role of master on a small vessel up to 24 m in length operating within inshore limits.

Required knowledge and skills

Knowledge of relevant maritime regulations

Relevant OH&S legislation and policies

Limits of responsibility of a master of a small vessel up to 24 m in length operating within inshore limits

Methods for controlling small vessel speed and direction

Small vessel turn techniques including Williamson turn and short turn around

Techniques for turning a small vessel across the tide across the wind

Manoeuvring characteristics and propulsion system operational techniques for vessels up to 24 m in length operating within inshore limits, including stopping distances and turning

circles at various draughts, speeds and loading

Effects of rudders and propellers on small boat performance

Effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances

Manoeuvring procedures for small vessels during adverse sea and weather conditions

Manoeuvres for a small vessel to approach an anchorage

Squat, shallow water, narrow channel and similar effects on small vessel's handling

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manoeuvre a vessel up to up to 24 m in length on coastal voyages.

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Applies underpinning knowledge and skills when:

completing manoeuvring operations for a small vessel

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applying safety precautions relevant to manoeuvring operations for small vessels

assessing operational capability of small vessel and propulsion system and associated equipment.

Shows evidence of application of relevant workplace procedures including:

relevant maritime regulations

OHS regulations and hazard prevention policies and procedures

job procedures and work instructions

relevant manufacturer's guidelines relating to the use of propulsion system and associated equipment, including instructions on equipment capability and limitations.

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Range Statement

General context

Work must be carried out in compliance with the relevant maritime regulations.

Work is performed within defined operational procedures, with responsibility for own outputs and limited responsibility for others. It involves the operation of small vessel propulsion systems and the application of nautical principles and manoeuvring techniques across a range of predictable inshore contexts. Planning and carrying out the required manoeuvres for a small vessel is required, including solving predictable small vessel manoeuvring problems.

Worksite environment

Vessel may include a small commercial vessel up to 24 m in length operating within inshore limits.

Manoeuvres may be carried out:

- by day or night in normal operational situations
- under normal and adverse conditions of sea and weather
- while underway
- during berthing and unberthing operations
- while anchoring or mooring
- when crossing a bar.

Manoeuvres may include:

- berthing and unberthing
- mooring or anchoring
- handling small vessel in shallow water, narrow channels, rivers, estuaries and restricted waters
- use of small marine power plants
- dragging an anchor and clearing a foul anchor.

Special handling techniques required may include:

- launching lifeboats and life rafts
- taking on board survivors from rescue boats and survival craft
- manoeuvring to rescue a person overboard
- keeping an unmanageable small vessel out of the trough of the sea
- lessening drift
- using oil.

Sources of information/documents

Documentation/records may include:

- operational orders
- navigational charts
- relevant maritime regulations
- small vessel's log
- small vessel's operational plan
- small vessel manufacturer's instructions and recommended procedures
- instructions of relevant Maritime Authorities.

Applicable International, Australian and State/Territory regulations and legislation

Applicable procedures and codes may include:

- Australian USL Code
- International Regulations for Preventing Collisions at Sea
- relevant Australian and State/Territory OH&S legislation.

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- relevant Australian and State/Territory OH&S legislation.

Unit Sector(s)

Not applicable.