



Australian Government

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

Revision Number: 1

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to manoeuvre a commercial vessel within limits of responsibility of a Master 4 or Skipper 2, i.e. a vessel of less than 80 metres in length within inshore limits (15 nm) and less than 35 metres within ACMW (600 nm). This includes the operation of propulsion and manoeuvring systems during normal operations, management of the vessel during heavy weather and seas and manoeuvring the vessel during normal berthing, mooring and anchoring operations.

This unit has been retitled but covers the same functions as previous unit TDMMC501B *Manoeuvre a vessel less than 80 metres in length in any prevailing conditions*.

Application of the Unit

Application of the unit

The unit has applications in qualifications for a Master 4 and Skipper 2 operating a vessel of less than 80 metres in length within inshore limits (15 nm) and less than 35 metres within ACMW (600 nm), i.e. Certificate IV in Transport&Distribution (Coastal Maritime Operations - Master Class 4).

Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant maritime regulations describing mandatory requirements for a Master 4/Skipper 2. This includes applicable sections of State/Territory maritime licensing and regulatory requirements and the National Standard for Commercial Vessels (NSCV) and the USL Code.
---	---

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.</i>
--	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Manoeuvre the vessel for normal operations	- a Manoeuvres are made to safely progress the operation and keep the vessel in safe water - b Vessel's heading is maintained within acceptable limits as per the requirements of the manoeuvre, weather, tide, headreach and stopping distances - c Alterations of heading or power are smooth and controlled at all times - d Communication is clear, concise and acknowledged at all times according to good seamanship principles - e Appropriate turn techniques are used

ELEMENT	PERFORMANCE CRITERIA
	f Vessel propulsion is controlled as required to progress the operation and complement helm movements
ELEMENT	PERFORMANCE CRITERIA
1 Manoeuvre the vessel for normal operations (continued)	g Safe operating limits of vessel propulsion and steering systems are not exceeded in normal manoeuvres h Appropriate allowance is made for the effects of deadweight, draft, trim, speed and under keel clearance on turning circles and stopping distance i Vessel is safely and correctly manoeuvred in relevant conditions of tide and wind in accordance with established maritime practice j Anchoring and mooring manoeuvres are carried out in accordance with safe nautical practice k Adequate resources are organised prior to and during operations l Appropriate alterations to vessel heading and power are made in response to assessments of the vessel's operational environment
2 Manoeuvre vessel during heavy sea and weather conditions	a Impending adverse weather conditions are identified and the implications for vessel operations are evaluated b Preparations are made and required precautions are taken to minimise risk and damage to vessel and personnel and time loss on passage within the limits of the officer's responsibility c Manoeuvres are adjusted to allow for weather and sea conditions and keep the vessel in safe water d Vessel's heading is maintained within acceptable limits e Appropriate action is taken in emergency situations

ELEMENT	PERFORMANCE CRITERIA
	involving the safety of the vessel and its cargo, and person both on board the vessel or on other vessels f Special handling techniques required under heavy weather conditions are used when necessary g Special handling techniques are correctly applied during launching of boats or liferafts, during rescues of persons overboard, or in adverse sea and weather conditions

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant sections of applicable State and Territory maritime regulations, NSCV and USL Code
- 2 Relevant OH&S legislation and policies
- 3 Limits of responsibility of a master of a vessel less than 80 m in length on a coastal voyage
- 4 Methods for controlling vessel speed and direction
- 5 Techniques for turning a vessel in various tide and wind conditions
- 6 Manoeuvring characteristics and propulsion system techniques and performance for vessels up to 80 m in length on coastal voyages, including stopping distances and turning circles at various draughts, speeds and loading
- 8 Effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances
- 9 Squat, shallow water and similar effects on vessel's handling
- 10 Manoeuvring methods for the berthing, anchoring, mooring
- 11 Typical manoeuvring problems for up to 80 m in length on coastal voyages, and appropriate action and solutions
- 12 Manoeuvring procedures in and near traffic separation schemes and vessel traffic service areas
- 13 Methods for recovering a person from the water
- 14 Maritime communication techniques
- 15 Manoeuvring techniques for the launching of boats and liferafts

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Communicate effectively with other personnel and passengers during vessel manoeuvres

REQUIRED SKILLS

- 2 Read and interpret vessel manufacturer's instructions on vessel operation
- 3 Read and interpret vessel marine regulations, rules and instructions concerning vessel operations
- 4 Collect, manage and interpret information required for the safe navigation of the vessel
- 5 Plan the timing and sequence of vessel operations to be appropriate to the prevailing circumstances, sea and weather conditions and any navigational hazards
- 6 Work collaboratively with other shipboard personnel and passengers during vessel operations
- 7 Make appropriate estimates and calculations required during the course of vessel operations (e.g. fuel, distance, speed, time, etc.)
- 8 Determine the type and extent of an emergency and determine the appropriate survival action to be taken
- 9 Determine appropriate procedures to allow for interaction effects with passing vessels
- 10 Recognise the effects of various operational situations such as squat, shallow water and narrow channel on vessel's handling and determine appropriate manoeuvring action required
- 11 Operate the vessel in accordance with manufacturer's instructions
- 12 Turn the vessel in various operational situations
- 13 Manoeuvre the vessel with no wash
- 14 Berth, anchor and moor the vessel in various conditions of wind, tide and weather

Evidence Guide

Evidence Guide

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

Evidence Guide

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

1 Critical aspects of evidence required to demonstrate competency in this unit	Assessment must confirm appropriate knowledge and skills to: - a Manoeuvre a vessel up to 80 metres in length on a coastal voyage: 1 safely in normal and emergency situations 2 in normal and heavy weather conditions 3 in berthing and unberthing operations 4 when anchoring or mooring - b Exercise all required safety and hazard control procedures when manoeuvring the vessel - c Identify typical manoeuvring problems and take appropriate action - d Communicate effectively with others during manoeuvring operations
2 Evidence required for demonstration of consistent performance	- a Performance is demonstrated consistently over a period of time and in a suitable range of contexts - b Consistently applies underpinning knowledge and skills when: 1 completing manoeuvring operations 2 identifying and evaluating manoeuvring problems and determining appropriate courses of action 3 applying safety precautions relevant to manoeuvring operations 4 assessing operational capability of propulsion plant and

Evidence Guide

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

- | | |
|---|---|
| | equipment |
| c | Shows evidence of application of relevant workplace procedures, including: <ol style="list-style-type: none"> 1 relevant maritime regulations 2 OH&S regulations and hazard prevention policies and procedures 3 standard operating procedures and work instructions 4 manufacturer's guidelines relating to the use of power plant and machinery, including instructions on equipment capability and limitations |
| d | Action is taken promptly to report and/or rectify manoeuvring incidents in accordance with statutory requirements and company procedures |
| e | Work is completed systematically with required attention to detail |
| f | Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others |

Evidence Guide (continued)

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

- | | |
|--|--|
| Context of assessment
3 | <p>a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations</p> <p>b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:</p> <ol style="list-style-type: none"> 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and |
|--|--|

Evidence Guide (continued)

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

	2 Appropriate practical assessment must occur: - i at the registered training organisation; and/or - ii on an appropriate working or training vessel
4 Specific resources required for assessment	Access is required to opportunities to: - a operate a suitable ship simulator over an appropriate range of simulated manoeuvring situations, weather and loading conditions; and/or - b manoeuvre a vessel less than 80 m in length on a coastal voyage in an appropriate range of situations, weather and loading conditions

Range Statement

Range Statement

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

VARIABLE

SCOPE

1. GENERAL CONTEXT

a. Work must be carried out:	1 in compliance with the relevant maritime regulations
--	---

Range Statement

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

b. Work is performed:	1 within a defined range of operations and routine procedures, with responsibility for own outputs and some responsibility for others in achieving the specified quality and quantity of outcomes
c. Work involves:	1 the conduct of routine procedures for the manoeuvring of a vessel during normal operations and in heavy weather conditions and the application of solutions to a defined range of typical manoeuvring situations and problems
d. Work requires:	1 some discretion and judgement in anticipating and allowing for possible manoeuvring problems and contingencies and the actions to be taken in these eventualities

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 a commercial vessel of less than 80 metres in length within inshore limits (15 nm) and less than 35 metres within ACMW (600 nm), including passenger vessels, tugs, fishing vessels and small cargo vessels
b Manoeuvres may be carried out	1 by day or night in normal operational situations 2 under normal and adverse conditions of sea and weather 3 during berthing and unberthing operations 4 while anchoring or mooring 5 in emergency situations with a disabled or partially disabled vessel 6 when slipping a buoy or single point mooring

Range Statement

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

- | | |
|----------------------------------|---------------------------|
| c Manoeuvres may include: | 1 berthing and unberthing |
|----------------------------------|---------------------------|

Range Statement (continued)

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

VARIABLE	SCOPE
c Manoeuvres may include: (continued)	2 mooring or anchoring
	3 use of small vessel propulsion systems
	4 handling vessel in shallow water, rivers, estuaries and restricted waters
	5 passing close to other vessels
	6 navigating in and near traffic separation schemes and vessel traffic service areas
	7 taking another vessel in tow or being towed
	8 dragging an anchor and clearing a foul anchor
d Special handling techniques required may include:	1 launching rescue boats and survival craft
	2 taking on board survivors from rescue boats and survival craft
	3 manoeuvring to assist another vessel or a ditched aircraft
	4 manoeuvring in following and quartering seas
	5 manoeuvring to keep a vessel out of a trough

Range Statement (continued)

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

	6 manoeuvring to rescue a person overboard
	7 keeping a disabled vessel out of the trough of the sea
	8 manoeuvring single-engine and twin-engine vessels
e Documentation and records may include:	1 operational orders 2 navigational charts 3 sections of State and Territory regulations, NSCV and USL Code dealing with a vessel up to 80 m in length on a coastal voyage 4 vessel's log 5 vessel's operational plan 6 vessel manufacturer's instructions and recommended procedures 7 instructions of relevant maritime authorities

Range Statement (continued)

TDMMC507B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 4

VARIABLE	SCOPE
f Applicable legislation, regulations and codes may include:	1 relevant sections of State and Territory maritime regulations, NSCV and USL Code 2 regulations for preventing collisions at sea 3 relevant Commonwealth, State and Territory OH&S legislation

Unit Sector(s)

Not applicable.

Field

Field MC Manoeuvring Vessel

Relationship to other units

Relationship to other units	The unit may be assessed in conjunction with other units that relate to the functions of the occupation(s) concerned.
------------------------------------	---