



Australian Government

Department of Education, Employment and Workplace Relations

TDMMC807B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

Revision Number: 1

TDMMC807B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to manoeuvre a commercial vessel of less than 24 m in length within offshore limits (200 nm). 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.

Application of the Unit

Application of the unit	The unit has applications in qualifications for a Master 5 and Skipper 3 operating a vessel of less than 24 metres in length within offshore coastal limits (200 nm) (i.e. Certificate III in Transport&Distribution (Coastal Maritime Operations - Master Class 5).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant maritime regulations describing mandatory requirements for a Master 5/Skipper 3. This includes applicable sections of State/Territory maritime licensing and regulatory requirements and the National Standard for Commercial Vessels (NSCV).and the USL Code.
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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>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Manoeuvre the small vessel for normal operations	<ul style="list-style-type: none"> a Manoeuvres are made to safely progress the operation and keep the small vessel in safe water b Vessel's heading is maintained within acceptable limits as per requirements of the manoeuvre, weather, tide, headreach and stopping distances c Alterations of heading or power are smooth and controlled d Communication is clear, concise and acknowledged according to good seamanship e Suitable techniques are applied when manoeuvring in shallow water and narrow channels f Appropriate turn techniques are used g Small vessel propulsion is controlled as required to progress the operation and complement steering movements h Safe operating limits of small vessel propulsion and steering systems are not exceeded in normal manoeuvres
ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
<p>1 Manoeuvre the small vessel for normal operations (continued)</p>	<p>j Appropriate allowance is made for the effects of deadweight, draft, trim, speed and under keel clearance on turning circles and stopping distance</p> <p>k Correct procedures are adopted when crossing a bar</p> <p>l Anchoring and mooring manoeuvres are carried out in accordance with safe nautical practice</p> <p>m Adequate resources are organised prior to and during operations</p> <p>n The effects on small vessel performance of shallow and restricted waters, tidal and wind conditions and passing vessel's and own vessel's bow and stern waves are regularly evaluated and the implications for small vessel handling assessed</p> <p>o Appropriate alterations to small vessel heading and power are made in response to assessments of the vessel's operational environment</p> <p>p Special handling techniques are correctly applied during rescues of persons overboard or adverse sea and weather conditions</p> <p>q Correct manoeuvres are used when launching boats or liferafts</p>
<p>2 Tow and be towed</p>	<p>a Preparations for towing are safely made in accordance with established nautical practice</p> <p>b Correct towing procedures and precautions are applied when towing and being towed</p> <p>c Correct manoeuvres are used when towing</p>
<p>3 Manoeuvre small vessel during adverse weather conditions</p>	<p>a Impending adverse weather and/or ice conditions are identified and the implications for small vessel operations are evaluated</p> <p>b Preparations are made and required precautions are taken to minimise risk and damage to small vessel and personnel and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>time loss on passage within the limits of the master's responsibility</p> <p>c Manoeuvres are adjusted to allow for weather and sea conditions and keep the small vessel in safe water</p> <p>d Small vessel's heading is maintained within acceptable limits</p> <p>e Special handling techniques required under heavy weather conditions are used when necessary</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant sections of applicable maritime regulations
- 2 Relevant OH&S legislation and policies
- 3 Limits of responsibility of a master of a small vessel up to 24 m in length operating within offshore limits
- 4 Methods for controlling small vessel speed and direction
- 5 Small vessel turn techniques
- 6 Techniques for incidental towing
- 7 Manoeuvring characteristics and propulsion system operational techniques for of vessels up to 24 m in length operating within offshore limits, including stopping distances and turning circles at various draughts, speeds and loading
- 8 Effects of rudders and propellers on small vessel performance
- 9 Effects of deadweight, draught, trim, speed and under-keel clearance on turning circles and stopping distances
- 10 Manoeuvring procedures for small vessels during adverse sea and weather conditions
- 11 Manoeuvres for a small vessel to approach an anchorage
- 12 Squat, shallow water, narrow channel and similar effects on small vessel's handling
- 13 Effects on small vessel handling of wind and currents
- 14 Typical manoeuvring problems for small vessels up to 24 m in length operating within offshore limits, and appropriate action and solutions
- 15 Interaction effects with passing and moored vessels and appropriate manoeuvring procedures to be applied
- 16 Manoeuvring procedures when launching lifeboats and liferafts
- 17 Methods for a recovering a person from the water
- 18 Maritime communication techniques, including issuing of helm and engine orders and towing communications

REQUIRED KNOWLEDGE

- 19 Methods for attaching towlines on small vessels (for incidental towing operations)
- 20 Effects of towing on the stability of a small vessel
- 21 Manoeuvring procedures when towing either alongside or on a towing line (for incidental towing operations)

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Communicate effectively with other personnel and passengers during vessel manoeuvres
- 2 Issue helm and engine orders
- 3 Read and interpret vessel manufacturer's instructions on vessel operation
- 4 Read and interpret vessel marine regulations, rules and instructions concerning vessel operations
- 5 Collect, manage and interpret information required for the safe navigation of the vessel
- 6 Plan the timing and sequence of vessel operations to be appropriate to the prevailing circumstances, sea and weather conditions and any navigational hazards
- 7 Work collaboratively with other shipboard personnel and passengers during vessel operations
- 8 Make appropriate estimates and calculations required during the course of vessel operations (e.g. fuel, distance, speed, time, etc.)
- 9 Determine the type and extent of an emergency and determine the appropriate survival action to be taken
- 10 Determine appropriate procedures to allow for interaction effects with passing vessels
11. 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
- 12 Operate the vessel in accordance with manufacturer's instructions

13 Turn the vessel in various operational situations

Evidence Guide

Evidence Guide (continued)

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<p>Evidence 2 required for demonstration of consistent performance (continued)</p>	<p>d Action is taken promptly to report and/or rectify resolve manoeuvring incidents in accordance with workplace procedures and regulatory requirements</p> <p>e Work is completed systematically with required attention to detail without damage to vessel, equipment or personnel</p> <p>f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others</p>
<p>3 Context of assessment</p>	<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 2 Appropriate practical assessment must occur: <ol style="list-style-type: none"> i at the registered training organisation; and/or ii on an appropriate working or training vessel
<p>4 Specific resources required for assessment</p>	<p>Access is required to opportunities to:</p> <p>a operate a suitable small vessel simulator over an appropriate range of simulated manoeuvring situations, weather and loading conditions; and/or</p>

Evidence Guide (continued)
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- b manoeuvre a vessel less than 24 m in length on offshore coastal voyages

Range Statement

Range Statement
TDMMC807B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

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
b. Work is performed:	1 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 offshore contexts. Planning and carrying out the required manoeuvres for a small vessel is required, including solving predictable small vessel manoeuvring problems
2. WORKSITE ENVIRONMENT	
a Vessel may include:	1 a small commercial vessel up to 24 m in length operating within offshore limits

Range Statement
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<p>b Measures to control the trim and stability of the vessel may be carried out:</p>	<ol style="list-style-type: none"> 1 by day or night in normal operational situations 2 under normal and adverse conditions of sea and weather 3 while underway 4 during berthing and unberthing operations 5 while anchoring or mooring 6 when towing or being towed 7 when crossing a bar
<p>c Manoeuvres may include:</p>	<ol style="list-style-type: none"> 1 berthing and unberthing 2 mooring or anchoring 3 handling small vessel in shallow water, narrow channels, rivers, estuaries and restricted waters

Range Statement (continued)
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<p>VARIABLE</p>	<p>SCOPE</p>
<p>c Manoeuvres may include: (continued)</p>	<ol style="list-style-type: none"> 4 use of small marine power plants 5 incidental towing 6 dragging an anchor and clearing a foul anchor
<p>d Special handling techniques required may</p>	<ol style="list-style-type: none"> 1 launching lifeboats and liferafts 2 taking on board survivors from rescue boats and survival craft

Range Statement (continued)
TDMMC807B MANOEUVRE A VESSEL WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

	3	manoeuvring to rescue a person overboard
	4	managing a disabled vessel in rough seas
	5	lessening drift
	6	manoeuvring alongside another vessel
e Documentation and records may include:	1	operational orders
	2	navigational charts
	3	relevant maritime regulations
	4	safety management system
	5	small vessel's log
	6	small vessel's operational plan
	7	small vessel manufacturer's instructions and recommended procedures
	8	towing permits and associated regulations
	9	instructions of relevant maritime authorities
f Applicable legislation, regulations and codes may include:	1	relevant sections of State and Territory maritime regulations, NSCV and USL Code
	2	International Regulations for Preventing Collisions at Sea
	3	relevant Commonwealth, State and Territory OH&S legislation

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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: <ul style="list-style-type: none">a Manoeuvre the small vessel:<ul style="list-style-type: none">1 safely in both normal and adverse weather conditions2 when towing or being towed (for incidental towing operations)3 in berthing and unberthing operations4 when anchoring or mooringb Exercise all required safety and hazard control procedures when manoeuvring the small vesselc Identify typical manoeuvring problems and take appropriate actiond Communicate effectively with others during manoeuvring operations
2 Evidence required for demonstration of consistent performance	<ul style="list-style-type: none">a Performance is demonstrated consistently over a period of time and in a suitable range of contextsb Consistently applies underpinning knowledge and skills when:<ul style="list-style-type: none">1 completing manoeuvring operations for a small vessel2 identifying and evaluating manoeuvring problems and determining appropriate courses of action3 applying safety precautions relevant to manoeuvring operations for small vessels4 assessing operational capability of small vessel and

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| | propulsion system and associated equipment |
| c | Shows evidence of application of relevant workplace procedures, including: <ol style="list-style-type: none">1 relevant maritime regulations2 OH&S regulations and hazard prevention policies and procedures3 job procedures and work instructions4 relevant manufacturer's guidelines relating to the use of propulsion system and associated equipment, including instructions on equipment capability and limitations |

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.
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