



**Australian Government**

# **TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

**Revision Number: 1**

## TDMMB707B SLIP VESSEL AND MAINTAIN HULL

### Modification History

Not applicable.

### Unit Descriptor

#### UNIT DESCRIPTOR:

**This unit involves the skills and knowledge required by a Master 5 or Skipper 3 to slip a commercial vessel of up to 24 metres in length and to carry out all required maintenance procedures to manage hull deterioration and maintain the watertight integrity of the vessel. This includes carrying out slipping procedures, implementing safety procedures when vessel is out of the water, identifying deterioration of fittings and hull, checking the watertight integrity of the vessel, and initiating required remedial action to rectify identified damage or deterioration.**

### Application of the Unit

<b>Application of the unit</b>	The unit has applications in the qualification for a Master 5/Skipper 3 as per relevant sections of Part D of the National Standard for Commercial Vessels, i.e. Certificate III in Transport&Distribution (Coastal Maritime Operations - Master Class 5).
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### Licensing/Regulatory Information

<b>Licensing/legislative requirements</b>	The unit is consistent with the relevant sections of State and Territory maritime regulations and NSCV/USL Code for a Master 5/Skipper 3.
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## Pre-Requisites

Not applicable.

## Employability Skills Information

Not applicable.

## 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

ELEMENT	PERFORMANCE CRITERIA
<b>1 Docking and slipping of a small vessel</b>	<ul style="list-style-type: none"> <li>a Type of slipway, dock or vessel lifting facility is identified and its suitability for the type of hull assessed</li> <li>b Hull data is correctly interpreted and recorded</li> <li>c Appropriate plan is prepared for procedures to be taken on-board vessel prior to, during and on completion of the proposed slipping or docking operations</li> <li>d Cradle and/or slings are correctly prepared prior to the slipping of the vessel</li> <li>e Appropriate precautions are taken prior to slipping and refloating of the vessel and when shoring/supporting the vessel</li> <li>f Safety precautions for both personnel and the vessel are correctly implemented on board when the vessel is out of the water</li> <li>g Vessel is correctly refloated after slipping and maintenance operations</li> </ul>

ELEMENT	PERFORMANCE CRITERIA
<b>2 Carry out inspection and maintenance procedures</b>	<ul style="list-style-type: none"> <li>a Checks of the vessel's underwater hull, equipment and components are carried out in accordance with maintenance schedules and vessel manufacturer's instructions</li> <li>b Any deterioration of a vessel's structure and fittings is identified and appropriate maintenance action initiated or carried out in accordance with company procedures and established nautical practice</li> </ul>
<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
<b>2 Carry out inspection and maintenance procedures (continued)</b>	<ul style="list-style-type: none"> <li>c Minor faults and imperfections in painted surfaces are repaired in accordance with company procedures</li> <li>d Weathered surfaces are restored using cleaners and liquid abrasives</li> <li>e Lubricants are applied to moving parts of vessel's underwater equipment in accordance with manufacturer's instructions</li> <li>f Marine surfaces are prepared and the appropriate finish applied in accordance with the manufacturer's instructions</li> <li>g Records of maintenance work carried out are completed in accordance with established procedures</li> </ul>
<b>3 Maintain watertight integrity of a small vessel</b>	<ul style="list-style-type: none"> <li>a Checks on the watertight integrity of the vessel are carried out in accordance with company procedures and safety regulations</li> <li>b Dangers to watertight integrity are identified and appropriate action is taken to report and rectify or minimise the hazards</li> <li>c Repairs and corrosion control are initiated and carried out in accordance with company procedures and manufacturer's instructions</li> <li>d Records of repairs and corrosion control and action to ensure watertight integrity are complete, accurate and comply with</li> </ul>

ELEMENT	PERFORMANCE CRITERIA
	company procedures
<b>4 Select and use maintenance equipment and materials</b>	<ul style="list-style-type: none"> <li>a Tools and equipment are correctly identified, selected and used</li> <li>b Maintenance materials are obtained, handled, prepared and applied in accordance with established procedures and manufacturer's instructions</li> <li>c Defective equipment and materials are identified and reported, repaired and/or replaced as required by established procedures</li> <li>d Maintenance equipment is correctly cleaned and stored after use</li> <li>e Unused materials are disposed of or returned to store in accordance with OH&amp;S and pollution control requirements and manufacturer's instructions</li> </ul>

## Required Skills and Knowledge

### REQUIRED KNOWLEDGE

*This describes the knowledge required for this unit.*

- 1 Relevant sections of State and Territory regulations, NSCV and USL Code dealing with responsibilities of a Master 5 or Skipper 3
- 2 Relevant OH&S legislation and policies
- 3 Procedures for the checking and inspecting a small vessel as part of routine maintenance procedures
- 4 Procedures for the initiation and coordination of repair and/or replacement procedures on small vessels
- 5 The nature and causes of corrosion of marine surfaces and structures and the available methods for its control, including surface preparation, and painting and antifouling
- 6 Preservatives and finishes used in marine maintenance and the related procedures and precautions to be taken for preparation, application and storage
- 7 Safety, environmental and hazard control precautions and procedures relevant to inspection and maintenance operations
- 8 Principal features of the structure of vessels up to 24 metres in length, including:
  - a a basic understanding of the properties and application of materials used in vessel construction
  - b the construction features, layout and subdivision requirements of a typical small vessel, watertight compartments and weathertight compartments
  - c propeller and rudder arrangements of a small vessel

## REQUIRED KNOWLEDGE

- 9 Slipping and docking procedures suitable for various types of hull forms used in vessels up to 24 metres in length
- 10 Maritime communication techniques needed during slipping and maintenance operations
- 11 Problems that may arise concerning the slipping and maintenance of vessels up to 24 metres in length, and appropriate action and solutions
- 12 Maintenance records that must be maintained on a small vessel

<b>TDMMB707B SLIP VESSEL AND MAINTAIN HULL</b>
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## REQUIRED SKILLS

*This describes the basic skills required for this unit.*

- 1 Use verbal communication skills required when slipping a small vessel and maintaining its hull
- 2 Read, interpret and apply operating and service manuals and instructions for the slipping of a small vessel and the maintenance of its hull, including all required OH&S procedures and precautions
- 3 Read and interpret material safety data sheets
- 4 Interpret hull observations and indications of damage or deterioration
- 5 Complete any required maintenance records
- 6 Work safely and collaboratively with others when slipping a small vessel and maintaining its hull
- 7 Select and use relevant tools and equipment as per instructions
- 8 Recognise hull damage and take appropriate action as per operating instructions
- 9 Recognise routine problems when slipping a small vessel and maintaining its hull and take appropriate action
- 10 Adapt to differences in vessels, hull structures and equipment and standard operating procedures

## REQUIRED KNOWLEDGE

- 11 Slip a vessel of less than 24 metres in length and maintain its hull

## Evidence Guide

**Evidence Guide**  
**TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

*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.*

<p><b>1 Critical aspects of evidence required to demonstrate competency in this unit</b></p>	<p>Assessment must confirm appropriate knowledge and skills to:</p> <ul style="list-style-type: none"> <li>a Organise and carry out routine maintenance and checks of watertight integrity of a vessel up to 24 metres in length</li> <li>b Carry out procedures to both slip and dock a vessel in preparation for inspections and maintenance</li> <li>c Initiate and coordinate maintenance, repair or replacement of faulty or damaged equipment or vessel's structure</li> <li>d Identify typical problems related to the maintenance of a vessel and take appropriate action</li> <li>e Exercise all required safety, environmental and hazard control precautions, and procedures during inspection and maintenance operations</li> <li>f Communicate effectively with others when administering the maintenance procedures on board a vessel</li> </ul>
<p><b>2 Evidence required for demonstration of consistent performance</b></p>	<ul style="list-style-type: none"> <li>a Performance is demonstrated consistently over a period of time and in a suitable range of contexts</li> <li>b Consistently applies underpinning knowledge and skills when:             <ul style="list-style-type: none"> <li>1 slipping and refloating a small vessel less than 24 metres</li> </ul> </li> </ul>



**Evidence Guide****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

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|  | <p>in length</p> <ol style="list-style-type: none"> <li>2 carrying out routine maintenance</li> <li>3 checking and maintaining the watertight integrity of a small vessel less than 24 metres in length</li> <li>4 applying safety precautions relevant to slipping, refloating and maintenance operations</li> </ol> <p>c Shows evidence of application of relevant workplace procedures, including:</p> <ol style="list-style-type: none"> <li>1 relevant sections of State and Territory marine regulations, NSCV and USL Code</li> <li>2 OH&amp;S regulations and hazard prevention policies and procedures</li> <li>3 standard operating procedures and work instructions</li> <li>4 vessel manufacturer's instructions for slipping and maintenance procedures</li> </ol> |
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**Evidence Guide (continued)****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

<p><b>2 Evidence required for demonstration of consistent performance (continued)</b></p>	<ol style="list-style-type: none"> <li>5 environmental protection procedures when carrying out maintenance</li> </ol> <p>d Action is taken promptly to report and/or rectify issues and problems identified with slipping and maintaining the vessel and when checking the vessel's hull</p> <p>e Work is completed systematically with required attention to detail</p> <p>f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others</p>
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**Evidence Guide (continued)****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

<b>3 Context of assessment</b>	<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"> <li>1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and</li> <li>2 Appropriate practical assessment must occur: <ol style="list-style-type: none"> <li>i at the registered training organisation; and/or</li> <li>ii on an appropriate working or training vessel</li> </ol> </li> </ol>
<b>4 Specific resources required for assessment</b>	<p>Access is required to opportunities to:</p> <ol style="list-style-type: none"> <li>a participate in a range of exercises, case studies and other simulated practical and knowledge assessments that demonstrate the skills and knowledge to slip a small vessel up to 24 metres in length and carry out routine maintenance and operations to maintain the watertight integrity of the hull; and/or</li> <li>b carry out procedures on an operational commercial or training vessel up to 24 metres in length to: <ol style="list-style-type: none"> <li>i slip and refloat the vessel</li> <li>ii undertake routine maintenance</li> <li>iii undertake operations to maintain the watertight integrity of the vessel</li> </ol> </li> </ol>

## Range Statement

### Range Statement

### TDMMB707B SLIP VESSEL AND MAINTAIN HULL

*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

<b>a. Work must be carried out:</b>	1 in compliance with the relevant sections of State and Territory marine regulations, NSCV and USL Code
<b>b. Work is performed:</b>	1 within defined operational procedures, with responsibility for own outputs in relation to specified quality standards and limited responsibility for others in achieving the specified quality of maintenance outcomes
<b>c. Work involves:</b>	1 the organisation and conduct of specified maintenance procedures on board the vessel and the application of solutions to a variety of predictable maintenance problems

### 2. WORKSITE ENVIRONMENT

<b>a Vessel may include:</b>	1 any commercial vessel up to 24 metres in length
<b>b Maintenance of a vessel may be carried out:</b>	1 when slipped or in dry dock 2 when berthed or moored

**Range Statement****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

<b>c Basic maintenance may include:</b>	<ol style="list-style-type: none"> <li>1 routine inspections of the watertight integrity of the vessel</li> <li>2 identification of any deterioration of a vessel's hull, structure, fittings, propeller and underwater equipment</li> <li>3 cleaning and polishing</li> <li>4 checking and replacing sacrificial anodes</li> </ol>
<b>d Underwater equipment may include:</b>	<ol style="list-style-type: none"> <li>1 sea valves and strainers</li> <li>2 bearings</li> </ol>

**Range Statement (continued)****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

<b>VARIABLE</b>	<b>SCOPE</b>
<b>d Underwater equipment may include: (continued)</b>	<ol style="list-style-type: none"> <li>3 stem glands</li> <li>4 skin fittings</li> <li>5 exhausts</li> </ol>
<b>e Maintenance tools and equipment may include:</b>	<ol style="list-style-type: none"> <li>1 hand tools, including chipping hammers and scrapers</li> <li>2 electric power tools such as grinders, sanders and drills,</li> <li>3 pneumatic power tools such as grinders, sanders and drills</li> <li>4 water and sand blasting equipment</li> <li>5 protective clothing and equipment such as:               <ol style="list-style-type: none"> <li>i eye and ear protection</li> </ol> </li> </ol>

**Range Statement (continued)****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

	<ul style="list-style-type: none"> <li>ii safety boots and helmet</li> <li>iii dust and fume masks</li> </ul>
<b>f Deterioration of vessel's structure and fittings may include:</b>	<ul style="list-style-type: none"> <li>1 corrosion of hull fittings and equipment</li> <li>2 decay of timber surfaces</li> <li>3 deterioration of propellers and underwater equipment</li> <li>4 damage from grounding</li> <li>5 marine growth</li> </ul>
<b>g Action to maintain watertight integrity of vessel may include:</b>	<ul style="list-style-type: none"> <li>1 closing of sea valves</li> <li>2 repair of corrosion</li> <li>3 closing of hatches</li> <li>4 checks on hull fittings</li> <li>5 repair and replacement of valves and hatches</li> </ul>
<b>h Documentation and records may include:</b>	<ul style="list-style-type: none"> <li>1 relevant sections of State and Territory marine regulations, NSCV/ USL Code</li> <li>2 planned maintenance procedures, including maintenance schedules and records</li> <li>3 vessel and equipment manufacturer's instructions and specifications</li> <li>4 instructions, specifications and recommended procedures of manufacturers of maintenance tools and materials</li> </ul>

**Range Statement (continued)****TDMMB707B SLIP VESSEL AND MAINTAIN HULL**

<b>VARIABLE</b>	<b>SCOPE</b>
<b>h Documentation and records may include: (continued)</b>	5 notices and instructions of relevant maritime authorities 6 guidelines under the Australian Intergovernment Agreement on a National System for the Prevention and Management of Marine Pest Incursions
<b>i Applicable legislation, regulations and codes may include:</b>	1 relevant sections of State and Territory marine regulations, NSCV/USL Code 2 relevant Commonwealth, State and Territory OH&S legislation 3 Australian Intergovernment Agreement on a National System for the Prevention and Management of Marine Pest Incursions

**Unit Sector(s)**

Not applicable.

**Field**

Field B Equipment Checking and Maintenance

**Relationship to other units**

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