



Australian Government

Department of Education, Employment and Workplace Relations

TDMMB1907B CARRY OUT BASIC HULL SERVICING

Revision Number: 1

TDMMB1907B CARRY OUT BASIC HULL SERVICING

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to carry out basic hull servicing on a small commercial coastal vessel within the limits of responsibility of Marine Engine Drivers Grades 2 and 3.

Application of the Unit

Application of the unit	The unit has applications in qualifications for Marine Engine Drivers Grades 2 and 3 (MED 2 and 3) as per relevant sections of Part D of the National Standard for Commercial Vessels (NSCV), i.e. Certificate III in Transport&Distribution (Marine Engine Driving - Grade 2) and Certificate II in Transport&Distribution (Marine Engine Driving - Grade 3).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant sections of State and Territory maritime regulations and NSCV/USL Code for a MED 2 and a MED 3.
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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 Carry out basic hull inspection and servicing procedures	- a Inspections of the vessel's hull, propeller and underwater equipment are carried out on a slipway within limits of responsibility as per standard procedures - b Any deterioration of a vessel's structure, fittings, propeller and underwater equipment is identified and appropriate basic servicing action initiated or carried out in accordance with company procedures - c Records of servicing work are completed as per standard procedures
2 Maintain watertight integrity of a small vessel	- a Checks and inspections on the watertight integrity of the vessel is in accordance with company procedures and safety regulations - b Dangers to watertight integrity are identified and appropriate action is taken to report and rectify or minimise the hazards - c Repairs and corrosion control are initiated and carried out in accordance with company procedures and manufacturer's instructions - d Records of repairs and corrosion control and action to ensure watertight integrity are complete, accurate and comply with company procedures

ELEMENT	PERFORMANCE CRITERIA
	e All underwater openings and equipment are checked prior to returning vessel to the water
ELEMENT	PERFORMANCE CRITERIA
3 Select and use servicing equipment and materials	a Tools and equipment are correctly identified and used in accordance with OH&S requirements, company procedures and manufacturer's instructions b Defective tools, equipment and materials are identified and reported, repaired and/or replaced as required by company procedures c Servicing equipment is correctly cleaned and stored after use
4 Follow safety and hazard control procedures	a All required safety and pollution control precautions and regulations are followed when carrying out basic hull servicing b Operational hazards are identified and action is taken to minimise or eliminate risk to personnel, ship and the environment c Safety and hazard minimisation procedures and regulations are followed at all times during basic hull servicing d Where relevant, procedures and precautions necessary for entry into confined spaces on a vessel are correctly followed after authorisation by a responsible person

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant maritime and OH&S procedures and regulations
- 2 Procedures for the checking and inspecting the hull of a small vessel as part of routine servicing
- 3 Typical problems likely to be found during the inspection and basic routine servicing of hulls on small vessels, including an awareness of the required standard of paintwork and antifouling
- 4 The nature and causes of corrosion of marine surfaces and structures and the methods for its control
- 5 Hull maintenance control measures, including surface preparation, painting and the use of sacrificial anodes
- 6 Safety, environmental and hazard control precautions and procedures relevant to hull inspection and servicing operations
- 7 Principal features of the hull structure and materials of typical small vessels
- 8 Types of hull servicing records that must be maintained on a small vessel to meet the requirements of the company and regulatory authorities

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SERVICING**

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Use basic verbal communication skills required when carrying out basic hull servicing on a small vessel
- 2 Read, interpret and apply simple instructions related to basic hull servicing on a small vessel

REQUIRED KNOWLEDGE

- 3 Read and interpret material safety data sheets
- 4 Read and interpret vessel plans, standard procedures and instructions for hull servicing on a small vessel
- 5 Follow procedures and instructions when carrying out hull servicing on a small vessel
- 6 Complete any required hull servicing records
- 7 Work safely and collaboratively with others when carrying out basic hull servicing on a small vessel
- 8 Select and use relevant tools and equipment as per instructions
- 9 Recognise damage or faults on a small vessel's hull and take appropriate action as per company and manufacturer's instructions
- 10 Recognise routine problems when carrying out basic hull servicing on a small vessel and take appropriate action
- 11 Adapt to variations in hull design and associated equipment from one vessel to another
- 12 Follow required work schedule as per company requirements

Evidence Guide

Evidence Guide

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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.

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| 1 Critical aspects of evidence required to demonstrate competency in | Assessment must confirm appropriate knowledge and skills to: <ol style="list-style-type: none"> a Carry out basic routine hull servicing and checks of the watertight integrity of a small vessel within limits of responsibility |
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this unit	- b Conduct routine observational monitoring of propellers and underwater equipment - c Initiate action to repair hull damage or deterioration - d Identify typical problems related to the basic hull servicing of a small vessel and take appropriate action in conjunction with others - e Exercise all required safety, environmental and hazard control precautions and procedures during hull inspection and servicing 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: - i carrying out basic routine hull inspection and servicing - ii checking and maintaining the watertight integrity of a small vessel - iii identifying and evaluating hull servicing problems and determining appropriate courses of action - iv applying safety precautions relevant to hull inspection and servicing operations - c Shows evidence of application of relevant workplace procedures, including: - i relevant sections of the Australian USL Code - ii OH&S and pollution control regulations and hazard prevention policies and procedures - iii job procedures and work instructions - iv relevant vessel manufacturer's guidelines relating to hull inspection and routine servicing procedures

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- v environmental protection procedures when carrying out servicing operations
- d Action is taken promptly to report and/or rectify issues and problems identified during hull inspection and servicing in accordance with manufacturer's instructions, regulations and company procedures

Evidence Guide (continued)**TDMMB1907B CARRY OUT BASIC HULL SERVICING**

Evidence required for demonstration of consistent performance (continued) 2	- 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
3 Context of assessment	- a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations - b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation: 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and 2 Appropriate practical assessment must occur: - i at the registered training organisation; and/or - ii on an appropriate working or training vessel

Evidence Guide (continued)**TDMMB1907B CARRY OUT BASIC HULL SERVICING****4 Specific resources required for assessment**

Access is required to opportunities to:

- a participate in a range of exercises, case studies and other simulated practical and knowledge assessments that demonstrate the skills and knowledge to carry out basic, routine hull inspection and servicing procedures and operations to maintain the watertight integrity of a small commercial vessel; and/or
- b carry out procedures on a small operational commercial or training vessel to undertake basic, routine hull inspection and servicing and operations to maintain the watertight integrity of the vessel

Range Statement**Range Statement****TDMMB1907B CARRY OUT BASIC HULL SERVICING**

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 sections of State and Territory maritime regulations and National Standard for Commercial Vessels (NSCV) and USL Code related to the hull maintenance of small vessels
b. Work is performed:	1 within established procedures, with responsibility for own outputs in relation to specified quality standards

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| d. Work requires: | 1 limited responsibility for others in achieving outcomes is required, including the application of solutions to a variety of predictable hull servicing problems |
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2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any small commercial vessel operating in near coastal waters
b Hull material may include:	1 timber 2 steel 3 composite (GRP) 4 marine grade alloy 5 ferro-concrete
c Basic hull servicing on a vessel may be carried out:	1 when berthed or moored 2 when slipped or in dry dock

Range Statement (continued)**TDMMB1907B CARRY OUT BASIC HULL SERVICING**

VARIABLE	SCOPE
c Basic hull servicing on a vessel may be carried out: (continued)	3 when careened on the shore
d Basic servicing may include:	1 routine inspections of the watertight integrity of the vessel 2 identification of any deterioration of a vessel's hull, structure, fittings, propeller and underwater equipment 3 cleaning and polishing 4 checking and replacing sacrificial anodes 5 checking of underwater equipment, including: - i sea valves and strainers - ii bearings (stern and rudder) - iii propellers, logs or impellers, rudders, nozzles, echo sounder transducers, etc. - iv skin fittings
e Servicing tools and equipment may include:	1 hand tools, including chipping hammers and scrapers 2 electric power tools such as grinders, sanders and drills, 3 pneumatic power tools such as grinders, sanders and drills 4 protective clothing and equipment such as: i eye and ear protection

Range Statement (continued)**TDMMB1907B CARRY OUT BASIC HULL SERVICING**

	ii safety boots and helmet
	iii dust and fume masks
f Deterioration of vessel's structure and fittings may include:	1 corrosion of hull fittings and equipment 2 decay of timber surfaces 3 osmosis 4 grounding damage

Range Statement (continued)**TDMMB1907B CARRY OUT BASIC HULL SERVICING**

VARIABLE	SCOPE
f Deterioration of vessel's structure and fittings may include: (continued)	5 damage to gel coat 6 deterioration of propellers and underwater equipment
g Action to maintain watertight integrity of vessel may include:	1 closing of sea valves 2 repair of corrosion 3 closing of hatches 4 replacing valves (sten fittings) 5 replacing seals 6 freeing dogs

Range Statement (continued)**TDMMB1907B CARRY OUT BASIC HULL SERVICING**

	7 repacking stem glands 8 checking stem fittings 9 checks on hull fittings
h Documentation and records may include:	1 relevant sections of the NSCV/USL Code dealing with hull servicing and watertight integrity on small vessels 2 vessel and company hull servicing procedures 3 vessel and equipment manufacturer's instructions, specifications and procedures 4 relevant standards related to the protection of the marine environment, including guidelines issued under the Australian Intergovernment Agreement on a National System for the Prevention and Management of Marine Pest Incursions
i Applicable legislation, regulations and codes may include:	1 relevant sections of State and Territory maritime regulations and National Standard for Commercial Vessels (NSCV) and USL Code related to the seaworthiness of vessels 2 relevant international, Commonwealth, State and Territory OH&S and pollution control 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 Servicing

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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