



Australian Government

TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY

Revision Number: 1

TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to organise the use and maintenance of deck machinery installed on a small commercial vessel.

Application of the Unit

Application of the unit	The unit has applications in the qualification for a Master 4 and Marine Engine Driver Grade 1 (MED 1) as per relevant sections of Part D of the National Standard for Commercial Vessels (NSCV), i.e. Certificate III in Transport & Distribution (Coastal Maritime Operations – Master Class 4) and Certificate IV in Transport & Distribution (Marine Engine Driving – Grade 1).
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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 Master 5 and a MED 1.
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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 Ensure safe operation of deck machinery	a Operation of deck machinery is monitored to ensure compliance with manufacturer's specifications, and instructions and safety requirements b Any operational problems encountered in the use of deck machinery on the vessel are reported and/or rectified in accordance with procedures c Malfunctioning equipment is identified and the nature of the fault is investigated and the outcomes reported in accordance with procedures
2 Coordinate maintenance of deck machinery	a Maintenance arrangements for deck machinery on the vessel are organised to fulfil survey requirements and manufacturer's specifications b Operational problems or faults with the vessel's deck machinery are recognised and the causes identified c Identified faulty deck machinery, equipment and parts are reported as required and appropriate maintenance or

- replacement action initiated
- d Any restrictions to operations arising from identified malfunctions of the deck machinery are justified and reported as required
 - e Arrangements are made to carry out routine lubrication and other preventative maintenance of deck machinery in accordance with manufacturer's instructions
 - f Faulty deck machinery, equipment and parts are identified, reported and repaired or replaced as per manufacturer's instructions and procedures
 - g Required adjustments to the deck machinery are carried out in accordance with manufacturer's specifications
 - h Records of all preventative and remedial maintenance carried out on deck machinery are completed in accordance with procedures
- 3 Ensure that safety and hazard control procedures are applied**
- a Operation and routine maintenance of deck machinery are monitored to ensure compliance with safety regulations
 - b Safety, hazard minimisation and pollution control procedures and regulations are followed at all times
 - c Operational and maintenance hazards related to deck machinery use and maintenance are identified and action is taken to minimise or eliminate risk to personnel, vessel and the environment
 - d Action is taken in the event of failure or emergency to ensure the isolation and security of the deck machinery and maintain the safety of the vessel and personnel involved
 - e Vessel's emergency and contingency plans are followed in the event of a failure or emergency involving deck machinery

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant sections of State and Territory marine regulations, NSCV/USL Code
- 2 Relevant OH&S and pollution control legislation and policies
- 3 Principal operational and safety features and component parts of deck machinery used on small vessels
- 4 Component parts, operation and routine maintenance requirements of deck machinery and anchor equipment on a small vessel
- 5 Procedures for organising the operation and routine maintenance of deck machinery found on small vessels falling within the limits of responsibility of a Marine Engine Driver Grade 1
- 6 Procedures for checking deck machinery
- 7 Repair and/or replacement procedures for deck machinery and components on board small vessels
- 8 Information contained in vessel and machinery operational manuals and specifications.
- 9 Basic principles of mechanics as they relate to forces, pressures, stress and strains involved in the use of deck machinery installed on small vessels
- 10 Principles and procedures of machinery lubrication as they relate to deck machinery on a small vessel
- 11 Procedures for using hand tools for basic maintenance operations on deck machinery on small vessels
- 12 Maintenance and repair hazards and problems and appropriate preventative and remedial action and solutions
- 13 Safety, environmental and hazard control precautions and procedures relevant to the operation and routine maintenance of deck machinery on small vessels
- 14 Safe procedures for handling heavy items during routine maintenance of deck machinery
- 15 Purpose and contents of material safety data sheets
- 16 Maritime communication techniques needed during the use and maintenance of deck machinery on a small vessel

REQUIRED KNOWLEDGE

- 17 Maintenance records that must be maintained on a small commercial vessel

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Use basic verbal communication skills required when operating and maintaining deck equipment and machinery
- 2 Read, interpret and apply operating and service manuals and instructions for deck equipment and machinery, including all required OH&S procedures and precautions
- 3 Read and interpret material safety data sheets
- 4 Read and interpret machinery performance readings and indications
- 5 Complete any required operational and maintenance records
- 6 Work safely and collaboratively with others when operating and maintaining deck equipment and machinery
- 7 Select and use relevant tools and equipment as per instructions
- 8 Recognise faulty equipment and take appropriate action as per operating instructions
- 9 Recognise routine problems when operating deck equipment and machinery and take appropriate action
- 10 Adapt to differences in vessels, deck equipment and machinery and operating and servicing procedures
- 11 Operate deck equipment and machinery on vessels of less than 1,500 kW propulsion power

Evidence Guide

Evidence Guide

TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY

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>1 Critical aspects of evidence required to demonstrate competency in this unit</p>	<p>Assessment must confirm appropriate knowledge and skills to:</p> <ul style="list-style-type: none"> a Organise and coordinate the use and maintenance of deck machinery on a small commercial vessel b Identify problems related to the deck machinery operation and maintenance and take appropriate action in conjunction with other vessel personnel c Ensure the exercise of all required safety, environmental and hazard control precautions and procedures when operating deck machinery d Communicate effectively with others when coordinating the operation and maintenance of deck machinery
<p>2 Evidence required for demonstration of consistent performance</p>	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 1 coordinating the use and routine maintenance of deck machinery on a small vessel 2 identifying and investigating operational and maintenance problems and determining appropriate courses of action 3 ensuring the application of safety precautions relevant to use and maintenance of deck machinery 4 identifying and implementing improvements to routine maintenance procedures

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	<p>c Shows evidence of application of relevant workplace procedures, including:</p> <ol style="list-style-type: none"> 1 relevant sections of State and Territory marine regulations, NSCV/USL Code 2 OH&S regulations, pollution control and hazard prevention policies and procedures 3 job procedures and work instructions 4 relevant deck machinery manufacturer's guidelines relating to operation routine maintenance procedures 5 environmental protection procedures when carrying out maintenance operations
<p>2 Evidence required for demonstration of consistent performance (continued)</p>	<p>d Action is taken promptly to report and/or rectify defective or malfunctioning deck machinery in accordance with manufacturer's instructions</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>
<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

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ii on an appropriate working or training vessel

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 coordinate the use and routine maintenance of deck machinery on a small vessel; and/or
- b coordinate the use and routine maintenance of deck machinery on an operational small commercial or training vessel

Range Statement**Range Statement****TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY**

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 relevant sections of State and Territory marine regulations, NSCV/USL Code

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b. Work is performed:	1 within broad operational requirements, with responsibility for own outputs in relation to specified quality standards and limited responsibility for others in achieving the specified quality and quantity of outcomes
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c. Work involves:	1 the organisation of the use and basic maintenance of deck machinery on a vessel and the application of solutions to a defined range of maintenance problems
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2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any commercial vessel up to 750 kW propulsion power (and up to 1,500 kW in restricted offshore operations)
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b Operation and maintenance of the deck machinery may be carried out:	1 by day or night in both normal and emergency situations 2 under any permissible conditions of weather 3 while underway 4 when berthed or moored 5 when slipped or in dry dock
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c Maintenance may include:	1 routine visual and performance checks 2 identification of any faults or operational problems 3 identification of damaged or worn equipment or fittings and arranging for repair or replacement 4 application of lubricants to moving parts of deck machinery
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Range Statement (continued)**TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY**

VARIABLE	SCOPE
d Deck machinery may include but is not limited to:	<ol style="list-style-type: none"> 1 winches 2 windlasses 3 small cranes, derricks and booms 4 safeguards and protective devices for winches 5 lifting equipment 6 fishing gear 7 basic hydraulic systems
e Maintenance tools and equipment may include:	<ol style="list-style-type: none"> 1 hand and power tools 2 greasing and lubrication tools 3 protective clothing and equipment such as: <ol style="list-style-type: none"> i eye and ear protection ii safety boots and helmet iii dust and fume masks
f Operational, maintenance and repair hazards may include:	<ol style="list-style-type: none"> 1 moving heavy loads using unsafe lifting procedures 2 unsecured machinery, components or repair equipment 3 slippery deck and vessel movement in a seaway 4 sharp tools and implements 5 rolling vessel

Range Statement (continued)**TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY**

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| 6 | poor weather |
| 7 | poor visibility |
| 8 | power tools |
| 9 | moving and rotating machinery |
| 10 | faulty machinery equipment handling equipment and lifting gear |
| 11 | using equipment beyond safe working limits |
| 12 | poor housekeeping procedures |
| 13 | non-compliance with safe working procedures |

Range Statement (continued)**TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY**

VARIABLE	SCOPE
g Documentation and records may include:	1 maintenance and repair procedures and instructions 2 relevant sections of State and Territory marine regulations, NSCV/USL Code related to small vessel maintenance 3 company and vessel operational and maintenance procedures for deck machinery 4 maintenance records 5 deck machinery manufacturer's instructions, specifications and recommended procedures 6 instructions of relevant maritime authorities related to the maintenance of vessels 7 relevant Australian standards

Range Statement (continued)**TDMMR207B USE AND MAINTAIN DECK EQUIPMENT AND MACHINERY**

h Applicable legislation, regulations and codes may include:	<ol style="list-style-type: none"> 1 relevant sections of State and Territory marine regulations, NSCV/USL Code 2 relevant Commonwealth, State and Territory OH&S and pollution control legislation 3 relevant international and Australian standards
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Unit Sector(s)

Not applicable.

Field

Field R Carry Out Operations on Equipment and Systems

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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