



Australian Government

Department of Education, Employment and Workplace Relations

TDMMR3007B OPERATE AND CARRY OUT BASIC SERVICE CHECKS ON SMALL VESSEL MARINE PROPULSION SYSTEMS

Release: 1

TDMMR3007B OPERATE AND CARRY OUT BASIC SERVICE CHECKS ON SMALL VESSEL MARINE PROPULSION SYSTEMS

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to operate and carry out routine basic service checks on propulsion systems on a small commercial vessel within the limits of responsibility and skill of a Marine Engine Driver Grade 3 or a Coxswain as per relevant sections of Part D of the National Standard for Commercial Vessels (NSCV).

Application of the Unit

Application of the unit	The unit has applications in the qualification for a Coxswain and Marine Engine Driver Grade 3 as per relevant sections of Part D of the National Standard for Commercial Vessels (NSCV), i.e. Certificate II in Transport&Distribution (Coastal Maritime Operations - Coxswain) 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 Coxswain or 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
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1 Operate propulsion systems	- a Propulsion system is operated as per standard operating procedures and manufacturer's instructions and specifications - b Propulsion system is prepared, started, and shut down as per manufacturer's instructions - c Basic faults are identified during operations and appropriate action is taken
2 Carry out basic, routine servicing procedures on propulsion systems	- a The operation of propulsion systems is monitored as per manufacturer's instructions and faulty operation is reported or rectified as per procedures - b Basic user service checks are carried out on propulsion system before and during operation in accordance with manufacturer's instructions - c Faulty machinery and components are identified and are reported and action is initiated as required for isolation, tagging and repair or replacement in accordance with company procedures

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ELEMENT	PERFORMANCE CRITERIA
3 Follow safety and hazard control procedures	- a All required safety precaution and regulations are followed when operating and maintaining propulsion systems - b Appropriate action is taken in the event of a failure or emergency involving propulsion systems to isolate and secure the relevant equipment and the vessel and maintain the safety of the vessel and persons involved - c Emergency and contingency plans are followed in the event of a failure or emergency involving propulsion systems

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Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Procedures for the operation and routine basic servicing on the propulsion system of a small vessel to ensure compliance with safety and pollution control rules and regulations
- 2 Safety, environmental and hazard control precautions and procedures relevant to the operation and routine servicing of propulsion systems on a small vessel
- 3 Basic features and operating characteristics of various propulsion systems used on small vessels
- 4 Problems related to the operation and routine basic servicing of propulsion systems on small vessels and appropriate action and solutions
- 5 Operational and user 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 carrying out routine basic servicing on the propulsion system of a small vessel
- 2 Read, interpret and apply simple instructions standard operating procedures for the operation and routine basic servicing of a propulsion system on a small vessel
- 3 Read and interpret gauges
- 4 Complete any required servicing records
- 5 Work safely and collaboratively with others during the operation and routine basic servicing of a propulsion system on a small vessel

REQUIRED KNOWLEDGE

- 6 Select and use relevant tools and equipment as per instructions
- 7 Recognise faulty equipment and take appropriate action as per operating instructions
- 8 Recognise routine problems during the operation and routine basic servicing of propulsion systems on a small vessel and take appropriate action
- 9 Adapt to changes in equipment and procedures in the workplace
- 10 Follow required work schedule as per company requirements
- 11 Bleed a diesel fuel system

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.

1 Critical aspects of evidence required to demonstrate competency in this unit	Assessment must confirm appropriate knowledge and skills to: - a Operate propulsion systems on a small vessel - b Carry out routine basic service checks of propulsion systems on a small vessel - c Exercise all required safety, environmental and hazard control precautions and procedures during operation and routine user servicing of propulsion systems - d Communicate effectively with others when operating and carrying out basic service checks on propulsion systems on a small vessel

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.

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 operating propulsion systems on a small vessel
 - 2 carrying out basic routine servicing on propulsion systems on a small vessel
 - 3 applying safety and pollution control precautions when operating and servicing propulsion systems on a small vessel
- c Shows evidence of application of relevant workplace procedures, including:
 - 1 relevant sections of State and Territory marine regulations and the National Standard for Commercial Vessels
 - 2 OH&S regulations and hazard prevention policies and procedures
 - 3 job procedures and work instructions
 - 4 relevant equipment manufacturer's guidelines relating to operating and carrying out routine service checks on engines and propulsion systems
 - 5 environmental protection procedures when carrying out servicing operations
- d Action is taken promptly to report problems identified with operating and carrying out routine basic service checks on propulsion systems
- 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)

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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
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 operate and carry out routine basic service checks on propulsion systems on a small vessel; and/or - b operate and carry out routine basic service checks on propulsion systems on an operational commercial or training vessel

Range Statement

Range Statement

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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
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1. GENERAL CONTEXT

a. Work must be carried out:	1 in compliance with the relevant sections of the State and Territory marine regulations, the National Standard for Commercial Vessels and USL Code
b. Work is performed:	1 within established procedures, with responsibility for own outputs in relation to specified quality and safety standards
c. Work requires:	1 limited responsibility for others in achieving outcomes, including the application of solutions to a variety of predictable maintenance problems

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any small commercial vessel up to 500 kW propulsion power
b Propulsion systems may include:	1 petrol outboard motors 2 medium and high speed diesel propulsion equipment 3 reduction gears, gearboxes, V-drive boxes, drive legs, etc.

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

	4 thrust blocks and shaft bearings
c Operation and basic user servicing of propulsion systems may be conducted:	1 by day or night in both normal and emergency situations 2 under any permissible conditions of weather 3 while underway 4 during berthing and unberthing operations 5 while anchored or moored 6 when refuelling 7 during cargo operations 8 during fishing operations

Range Statement (continued)

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VARIABLE	SCOPE
d Basic user service checks may include:	1 carrying out manufacturer's instructions for pre-start checks 2 checking shaft glands 3 checking strainers 4 checking cooling system 5 visual check for oil leaks 6 visual check, identification and reporting of obvious equipment faults 7 checking fuel levels 8 checking fuel systems

VARIABLE	SCOPE
e Documentation and records may include:	1 relevant sections of the State and Territory marine regulations and the NSCV and USL Code dealing with the operation of small vessels 2 equipment manufacturer's instructions, specifications and procedures
f Applicable legislation, regulations and codes may include:	1 State and Territory marine regulations related to the operation of small vessels, including pollution control legislation 2 NSCV and USL Code 3 relevant Commonwealth, State and Territory OH&S legislation

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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