



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **TDM40207 CERTIFICATE IV IN TRANSPORT & DISTRIBUTION (MARINE ENGINE DRIVING - GRADE 1)**

**Release: 1**

## **TDM40207 CERTIFICATE IV IN TRANSPORT DISTRIBUTION(MARINE ENGINE DRIVING - GRADE 1)**

### **Modification History**

Not applicable.

### **Description**

**Rationale:** A qualification aligned to the educational requirements for certification as a Marine Engine Driver Grade 1 as described in Part D of the National Standard for Commercial Vessels (NSCV).

Successful completion will require competency in units that relate to work defined as characteristics of AQF Certificate 4:

*'Performance of a broad range of skilled applications including requirements to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others'.*

### **Pathways Information**

Not applicable.

### **Licensing/Regulatory Information**

Not applicable.

### **Entry Requirements**

Not applicable.

## Employability Skills Summary

### Employability Skills Summary for TDM40207 Certificate IV in Transport & Distribution (Marine Engine Driving - Grade 1)

The following table contains a summary of the employability skills as identified by the maritime industry for this qualification. This table should be interpreted in conjunction with the detailed requirements of each unit of competency packaged in this qualification. The outcomes described here are broad industry requirements that may vary depending on packaging options.

Employability Skill	Industry/enterprise requirements for this qualification include:
<b>Communication</b>	<ul style="list-style-type: none"><li>• Establish and implement vessel's engine room communication systems and procedures</li><li>• Listen to and interpret verbal information related to the operation, maintenance and management of the hull, propulsion and auxiliary plant and systems on a coastal vessel of less than 1,500 kW propulsion power</li><li>• Read and interpret maritime regulations, engineering drawings, gauges and instrument readings, vessel's safety management system, vessel and equipment manufacturer's instructions, etc.</li><li>• Speak clearly and directly on diverse and complex matters related to vessel's engine room operations, maintenance and management</li><li>• Write documents including reports on vessel and engine room operations and maintenance, safety incident reports, entries in vessel's engine room records, etc.</li><li>• Negotiate complex issues with others in the course of vessel operations</li><li>• Recognise and interpret non-verbal signs, signals and behaviour</li><li>• Interpret and record observations and equipment with multilingual crew (where applicable)</li><li>• Use engine room communication equipment</li></ul>
<b>Teamwork</b>	<ul style="list-style-type: none"><li>• Provide leadership to engine room personnel on the vessel</li><li>• Manage the resolution of any interpersonal conflicts that may arise on board the vessel</li><li>• Motivate crew members</li><li>• Assist crew members to achieve and maintain competency</li><li>• Manage the avoidance and prevention of harassment of others on the vessel</li><li>• Collaborate with crew members in the course of vessel operations</li></ul>

<b>Employability Skill</b>	<b>Industry/enterprise requirements for this qualification include:</b>
	<ul style="list-style-type: none"><li>• Manage crew members of different ages, genders, race, religion, political persuasion, etc.</li></ul>

<b>Employability Skill</b>	<b>Industry/enterprise requirements for this qualification include:</b>
<b>Problem solving</b>	<ul style="list-style-type: none"> <li>• Identify and solve or report complex problems arising in the course of engine room operations and maintenance</li> <li>• Monitor and anticipate problems that may occur in the course of engine room operations including hazards and risks and take appropriate action (e.g. strategies for the avoidance of engine room fire and explosion, avoidance of hazards in the engine room space, etc.)</li> <li>• Manage hazards and risks in complex and diverse situations (e.g. engine room hazards, crew working in confined spaces, engine room operations in heavy weather and seas, etc.)</li> <li>• Use advanced diagnostic and analysis techniques required when managing maintenance program for propulsion, electrical and auxiliary systems on a coastal vessel of less than 1,500 kW propulsion power in conjunction with the master and other crew members</li> <li>• Use mathematics to solve problems such as calculations related to engine and equipment performance and maintenance, safe working limits of equipment and calculations related to electrical system operations, fault finding and maintenance</li> </ul>
<b>Initiative and enterprise</b>	<ul style="list-style-type: none"> <li>• Modify activities dependent on differing work situations and contingencies such as changes in the weather and sea conditions, plant and equipment breakdown and emergency situations including fire, flooding or failure of steering or propulsion or auxiliary systems</li> <li>• Take appropriate initiatives in complex and diverse situations such as those above</li> <li>• Manage engine room responses to any changes in vessel's equipment, standard operating procedures and the vessel's working environment</li> </ul>
<b>Planning and organising</b>	<ul style="list-style-type: none"> <li>• Establish operational and emergency plans, systems and procedures for the engine room on the vessel, including safety management system and emergency procedures</li> <li>• Establish and implement systems and procedures for maintaining compliance with regulations and codes of practice</li> <li>• Establish and implement Engine Room Resource Management Strategy (where applicable)</li> <li>• Monitor and evaluate operational performance and compliance</li> <li>• Collect, manage and interpret information needed to plan and organise engine room operations</li> </ul>

<b>Employability Skill</b>	<b>Industry/enterprise requirements for this qualification include:</b>
	<ul style="list-style-type: none"> <li>Organise and plan own management activities as a Marine Engine Driver Grade 1</li> <li>Manage time and priorities in the course of management activities on the vessel</li> </ul>
<b>Self-management</b>	<ul style="list-style-type: none"> <li>Interpret and apply regulations, survey requirements, standard procedures and codes of practice as they apply to the engine room operations on a vessel, including OH&amp;S, environmental protection, security and SOLAS requirements</li> <li>Establish and follow own work plans and schedules</li> <li>Evaluate and monitor own work and performance as a Marine Engine Driver Grade 1</li> </ul>
<b>Learning</b>	<ul style="list-style-type: none"> <li>Plan and organise learning and assessment activities for engine room personnel on a vessel, including emergency drills, safety and security awareness training, and continuing professional development of crew members</li> <li>Manage adaptation of crew members to any changes in the vessel's systems, equipment, procedures and the vessel's operating environment (e.g. sea and weather conditions)</li> <li>Instruct, coach or mentor other crew members on the vessel</li> <li>Contribute to the assessment of the competency of other crew members</li> <li>Assist in creating a learning environment on board the vessel</li> <li>Adapt own competency to any changes in the vessel type, its equipment and its operating environment</li> <li>Update own knowledge and skills required for engine room management activities</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>Operate complex equipment and systems including propulsion and auxiliary systems, and other engine room equipment and systems, etc. on vessels of less than 1,500 kW</li> <li>Establish and implement operational and maintenance systems for the vessel's hull, propulsion and auxiliary systems, safety equipment and various engine room facilities</li> <li>Establish safety management system and OH&amp;S procedures for use and maintenance of engine room plant, equipment and facilities</li> <li>Manage the preventative and remedial maintenance of vessel's hull, structures and engine room plant, equipment</li> </ul>

Employability Skill	Industry/enterprise requirements for this qualification include:
	and tools on vessels of less than 1,500 kW

## Packaging Rules

### Requirements for completion of the qualification:

A successful outcome of the **nineteen** units of competency listed below.  
Additional units from those listed below or relevant units from this or other Training Packages <sup>Note 4</sup> may be included in the qualification to satisfy specific additional needs beyond the minimum requirements. (They may also be achieved separately, either individually or in skill sets, leading to a National Statement of Attainment as described elsewhere in the Training Package)

MANDATORY REQUIREMENTS FIELD		UNIT	
<b>B</b>	<b>Equipment Checking and Maintenance</b>	TDMMB3107B	Organise maintenance and repairs on a small vessel
		TDMMB3507B	Employ damage control techniques for hull damage
<b>E</b>	<b>Communication</b>	TDMME1107A	Contribute to effective communications and teamwork on a coastal vessel <sup>Note 1</sup>
<b>F</b>	<b>Operational Quality and Safety</b>	TDMMF407B	Maintain the operational condition of lifesaving, firefighting and other safety systems
		TDMMF1007B	Provide elementary first aid
		TDMMF1107B	Survive at sea in the event of vessel abandonment
		TDMMF2707B	Prevent, control and fight fires on board a coastal vessel
		TDMMF4107B	Carry out engineering calculations related to maintenance and operations
		TDMMF5407A	Observe safety and emergency procedures on a coastal vessel <sup>Note 2</sup>

		TDMMF550 7A	Fight and extinguish fires on board a coastal vessel <sup>Note 3</sup>
<b>R</b>	<b>Carry Out Operations on Equipment and Systems</b>	TDMMR20 7B	Use and maintain deck equipment and machinery
		TDMMR19 07B	Safely handle and stow explosive and flammable materials
		TDMMR24 07B	Operate and marine internal combustion engines and propulsion transmission systems
		TDMMR25 07B	Operate and maintain auxiliary machinery systems, including steering gear and refrigeration systems
		TDMMR26 07B	Operate, test and maintain marine electrical and control equipment
		TDMMR54 07B	Carry out refuelling and fuel transfer operations
<b>R</b>	<b>Carry Out Operations on Equipment and Systems (continued)</b>	TDMMR61 07A	Use and care for hand and power tools on a small vessel
		TDMMR62 07A	Carry out basic welding, brazing, cutting and machining operations on a coastal vessel



<b>U</b>	<b>Environment</b>	TDMMU507B	Ensure compliance with environmental considerations in a small domestic vessel
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**Note 1:** TDMME1107A is a **new unit** incorporating the requirements of the previous two units TDMME101A Understand orders and be understood in relation to shipboard duties and TDMML201A Contribute to effective human relationships on board a vessel (as they apply to coastal vessel operations).

**Note 2:** TDMMF5407A is a **new unit** incorporating the requirements of the previous two units TDMMF701B Observe safe working practices and TDMMF801B Comply with emergency procedures.

**Note 3:** TDMMF5507A is a **new unit** incorporating the requirements of the previous two units TDMMF5302A Fight and extinguish fires on board a commercial vessel and TDMMF1201A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire.

### **OPTIONAL ADDITIONAL UNITS TO MINIMUM REQUIREMENTS**

The units listed below or relevant units from this or other Training Packages <sup>Note 4</sup> may be included in the qualification to satisfy specific additional needs beyond the minimum mandatory requirements.

<b>O</b>	<b>Security</b>	TDMMO107A	Follow maritime security procedures
<b>Optional imported units from the Business Services Training Package BSB01</b>			Implement continuous improvement
			Implement operational plan
			Manage workplace information systems
			Implement effective workplace relationships

**Note 4:** Where units of competency are included from another Training Package, Registered Training Organisations should check the National Training Information System (NTIS) or contact the Industry Skills Council responsible for the Training Package to check if the unit has any pre-requisite or co-requisite requirements.