



**Australian Government**

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

# **TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

**Revision Number: 1**

## **TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

### **Modification History**

Not applicable.

### **Unit Descriptor**

UNIT DESCRIPTOR:

**This unit involves the skills and knowledge required to use and care for hand and power tools used by Marine Engine Drivers Grades 1, 2 and 3 during operations and maintenance activities on board commercial coastal vessels.**

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### **Application of the Unit**

<b>Application of the unit</b>	The unit has applications in the qualifications for Marine Engine Drivers Grades 1, 2 and 3 as per relevant sections of Part D of the NSCV, i.e. Certificate IV in Transport&Distribution (Marine Engine Driving - Grade 1), 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**

<b>Licensing/legislative requirements</b>	The unit is consistent with the relevant sections of State and Territory maritime regulations and NSCV/USL Code for Marine Engine Drivers, Grades 1, 2 and 3 on commercial vessels operating in coastal waters.
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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
<p><b>1 Select appropriate tools for work</b></p>	<ul style="list-style-type: none"> <li>a Work requirements are interpreted as per company procedures</li> <li>b Appropriate hand and power tools are selected for the tasks required</li> <li>c Selected hand and power tools are checked for their serviceability</li> <li>d Defective tools are identified and reported and appropriate action is taken for their repair or replacement as per established procedures</li> <li>e Blunt or worn tools are identified and appropriate action taken to replace, sharpen or rectify the tools as per standard operating procedures and practice</li> <li>f Instructions for the use of the tools are accessed and interpreted if required</li> </ul>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
<b>2 Use hand and power tools</b>	<ul style="list-style-type: none"> <li>a Work area, work pieces and tools are prepared for the required tasks in accordance with standard operating procedures</li> <li>b Other personnel in the work area are made aware of the work being carried out as required by company procedures and the safety management system</li> <li>c Hand and power tools are used for the tasks as directed and in accordance with established procedures and manufacturer's instructions</li> <li>d Desired outcomes for the work are achieved to job specifications</li> </ul>
<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
<b>3 Follow safety and hazard control procedures</b>	<ul style="list-style-type: none"> <li>a All required safety precautions, procedures and regulations are followed when using hand and power tools</li> <li>b Operational hazards are identified when using hand and power tools and action is taken in conjunction with others to minimise or eliminate risks involved</li> </ul>
<b>4 Care for hand and power tools</b>	<ul style="list-style-type: none"> <li>a Tools are used only for their intended purposes in accordance with manufacturer's instructions and established procedures</li> <li>b Tools are cleaned and stored after use in accordance with manufacturer's instructions and standard operating procedures</li> <li>c Where relevant, tools are sharpened in accordance with manufacturer's instructions and standard operating procedures</li> <li>d Where relevant, tools are adjusted, tightened and/or lubricated in accordance with manufacturer's instructions and standard operating procedures</li> <li>e Grinding wheels are dressed and made true in accordance</li> </ul>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	with manufacturer's instructions and standard operating procedures  f Defective or worn tools and tool components are identified, marked as required and reported, and appropriate action is taken for their repair or replacement in accordance with standard operating procedures

## **Required Skills and Knowledge**

### **REQUIRED KNOWLEDGE**

*This describes the knowledge required for this unit.*

- 1 Safety management system as it relates to the use of hand and power tools on board a vessel
- 2 Relevant OH&S and pollution control legislation and policies
- 3 Types, names and identifying features of various hand and power tools carried on a small coastal vessel of less than 80 metres
- 4 Established procedures for the use and care of hand or power tools required for work tasks that may be carried out by an integrated rating
- 5 Hazards and related safety precautions when using hand or power tools on board a small vessel
- 6 Characteristics and identifying features of common engineering drill bits
- 7 Environmental protection measures when carrying out basic engineering tasks on a small vessel

### **REQUIRED SKILLS**

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

- 1 Use basic verbal and visual communication skills required when working with hand and power tools on a small vessel of less than 80 metres
- 2 Read, interpret and apply simple instructions on the use of basic hand and power tools needed to work on a small vessel
- 3 Work safely and collaboratively with others when working with hand and power tools on a small vessel
- 4 Select and use relevant tools and equipment as per instructions
- 5 Recognise faulty tools and equipment and take appropriate action as per operating instructions
- 6 Recognise routine problems and hazards that may occur when working with hand and power tools on a small vessel and take appropriate action
- 7 Adapt to changes in hand and power tools and equipment and procedures in the workplace

## REQUIRED KNOWLEDGE

- 8 Follow required work schedule as per company requirements

## Evidence Guide

### Evidence Guide

### TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS 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.*

<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 Select appropriate hand and power tools to complete assigned tasks</li> <li>b Use hand and power tools in accordance with established procedures</li> <li>c Care for hand and power tools in accordance with established procedures</li> <li>d Exercise safety, environmental and hazard control precautions and procedures</li> <li>e Take appropriate action if a hand or power tool is found to be defective or worn</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 selecting appropriate hand and power tools to complete assigned tasks</li> <li>2 using and caring for hand and power tools</li> </ul> </li> </ul>

## **Evidence Guide**

### **TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

- 3 taking required safety, environmental and hazard control precautions
- 4 taking appropriate action where a hand or power tool is been found to be defective or worn
- c Shows evidence of application of relevant workplace procedures, including:
  - 1 safety management system and associated procedures
  - 2 OH&S regulations and hazard prevention policies and procedures
  - 3 tool manufacturer's instructions
  - 4 standard operating procedures and work instructions
- d Action is taken promptly to report incidents and problems involving the use of hand and power tools
- 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)**

### **TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

#### **Context of 3 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



**Evidence Guide (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

	<p>2 Appropriate practical assessment must occur:</p> <ul 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> </ul>
<p><b>4 Specific resources required for assessment</b></p>	<p>Access is required to opportunities to either:</p> <ul style="list-style-type: none"> <li>a demonstrate the ability to the use and care of hand or power tools required for work tasks that may be carried out on board a small vessel through appropriate practical exercises and simulated situations; and/or</li> <li>b use and care for hand or power tools required for work tasks that may be carried out on a small operational commercial or training vessel</li> </ul>

**Range Statement**

**Range Statement**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

*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**

<p><b>a. Work must be carried out:</b></p>	<p>1 in compliance with relevant State and Territory maritime and safety regulatory requirements</p>
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**Range Statement**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

<b>b. Work is performed:</b>	1 either individually or in a team environment with some accountability and responsibility for self in achieving the prescribed outcomes
<b>c. Work involves:</b>	1 the use and care of hand and power tools required for the range of shipboard tasks that may be carried out by an integrated rating on board a vessel
<b>d. Work requires:</b>	1 the following of the orders and instructions of the supervising engineer

**2. WORKSITE ENVIRONMENT**

<b>a Vessel may include:</b>	1 any Australian or international commercial vessel of less than 80 metres in length
<b>b Hand and power tools that may be used on a small vessel may include:</b>	<p>1 hand tools such as:</p> <ul style="list-style-type: none"> <li>i spanners</li> <li>ii screwdrivers, pliers</li> <li>iii vice grip</li> <li>iv punches</li> <li>v torque wrenches</li> <li>vi hammers</li> <li>vii chisels</li> <li>viii files</li> <li>ix snips</li> <li>x hacksaws</li> </ul>

**Range Statement**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

xi nibblers

**Range Statement (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

VARIABLE	SCOPE
<p><b>b Hand and power tools that may be used on a small vessel may include:</b> (continued)</p>	<p>xii drill bits</p> <p>xiii taps</p> <p>2 power tools such as:</p> <p>i portable and pedestal power drills</p> <p>ii drilling jigs</p> <p>iii portable and pedestal grinders</p> <p>iv jig saws</p> <p>v shears</p> <p>vi power nibblers</p>
<p>3 gauges such as:</p> <p>i screw pitch</p> <p>ii radius</p> <p>iii feeler</p> <p>iv thickness</p> <p>v form</p>	
<p>4 marking out and measuring tools such as:</p>	

**Range Statement (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

- i rules
- ii tapes
- iii squares
- iv scribes
- v dividers
- vi trammels
- vii adjustable gauge
- vii centre punch hammers
- i
- ix callipers
- x vernier callipers
- xi micrometers

**Range Statement (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

<b>VARIABLE</b>	<b>SCOPE</b>
<b>c Care of tools may include:</b>	<ul style="list-style-type: none"><li>1 cleaning</li><li>2 sharpening (where relevant)</li><li>3 storing</li><li>4 using tools in accordance with manufacturer's instructions and standard operating procedures</li><li>5 using tools only for their intended purpose</li></ul>

**Range Statement (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

**d Safety precautions when using and caring for hand and power tools may include:**

- 1 using personal protection clothing and equipment such as:
  - i eye and ear protection
  - ii boots
  - iii masks
- 2 following manufacturer's instructions
- 3 following ISM Code safety management procedures as they apply to the use of hand and power tools
- 4 identifying hazards and using appropriate hazard minimisation strategies

**e Operational hazards when using and caring for hand and power tools may include:**

- 1 sharp blades
- 2 moving and rotating blades and attachments
- 3 electric shock
- 4 unsecured machinery, components or equipment
- 5 sparks in areas where flammable and explosive substances are stored
- 6 using tools beyond safe working limits
- 7 poor housekeeping procedures
- 8 non-compliance with safe working procedures

**f Documentation /records may include**

- 1 safety management system and related procedures, checklists and instructions
- 2 standard operating procedures
- 3 instructions of manufacturer of tools and equipment

**Range Statement (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

4 vessel and company procedures

**Range Statement (continued)**

**TDMMR6107A USE AND CARE FOR HAND AND POWER TOOLS ON A SMALL VESSEL**

VARIABLE	SCOPE
g <b>Applicable procedures and codes may include</b>	1 relevant sections of State and Territory maritime regulations, NSCV and USL Code 2 relevant international, Commonwealth, State and Territory OH&S and pollution control legislation

**Unit Sector(s)**

Not applicable.

**Field**

Field MF Carry Out Operations on Equipment and Systems

**Relationship to other units**

<b>Relationship to other units</b>	The unit may be assessed in conjunction with other units that form part of a maritime worker's job function.
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