



Australian Government

MARC030 Use and care for hand and power tools

Release: 1

MARC030 Use and care for hand and power tools

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to use and care for hand tools and air, battery and electric power tools, on board a range of vessel.

This unit applies to individuals working in the maritime industry as an Integrated Rating or Able Seafarer-Engine/Deck.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

C – Equipment Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Select appropriate tools for work

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1.1 | Work requirements are interpreted according to organisational procedures and manufacturer instructions |
| 1.2 | Appropriate hand and power tools are selected for required tasks |
| 1.3 | Selected hand and power tools are checked for serviceability |
| 1.4 | Defective tools are identified, reported and appropriate repair or replacement action is taken according to organisational |

		procedures
	1.5	Blunt or worn tools are identified and appropriate action is taken to replace, sharpen or rectify according to organisational procedures and manufacturer instructions
	1.6	Instructions for the use of tools are accessed and interpreted as required
2	Use hand and power tools	
	2.1	Work area, work pieces and tools are prepared for required tasks according to organisational procedures
	2.2	Other personnel in work area are made aware of work being carried out as required by safety management procedures
	2.3	Work is marked out using appropriate marking out tools according to organisational procedures
	2.4	Hand and power tools are used as directed according to organisational procedures and manufacturer instructions
	2.5	Desired work outcomes are achieved to job specifications
3	Follow safety and hazard control procedures	
	3.1	Required safety precautions, organisational procedures and regulations are followed when using hand and power tools
	3.2	Operational hazards are identified when using hand and power tools and action is taken to minimise or eliminate risk to self, other personnel, the vessel and the environment
4	Care for hand and power tools	
	4.1	Tools are used for intended purpose according to manufacturer instructions and organisational procedures
	4.2	Tools are cleaned and stored after use according to manufacturer instructions and organisational procedures
	4.3	Tools are sharpened according to manufacturer instructions and organisational procedures, as required
	4.4	Tools are adjusted, tightened and/or lubricated according to manufacturer instructions and organisational procedures, as required
	4.5	Grinding wheels are dressed and made true according to manufacturer instructions and organisational procedures
	4.6	Defective or worn tools and tool components are identified, marked as required and reported, and appropriate repair or replacement action is taken according to organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TDMMR4707 Use and care for hand and power tools on a vessel.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>

Assessment Requirements for MARC030 Use and care for hand and power tools

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in vessels, equipment and standard operating procedures
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- caring for air operated tools, their supply hoses and hose connections, safely and correctly
- caring for hand and power tools safely and correctly, including cleaning, sharpening or adjusting tools according to standard operating procedures
- communicating with other workplace personnel using effective:
 - listening techniques
 - questioning to confirm understanding
 - verbal and non-verbal language
- completing work systematically with required attention to detail
- complying with relevant maritime and safety regulatory requirements
- dressing and truing a grinding wheel
- following required work schedule according to company requirements
- following the orders and instructions of the officer of the watch
- marking out work to specifications, and measuring and checking the quality of finished work, including the correct use of:
 - rules and tapes
 - squares
 - scribes
 - dividers
 - trammels
 - adjustable gauge
 - centre punch hammers
 - callipers
 - vernier callipers and micrometer
- reading, interpreting and applying documentation that includes technical specificity, including:
 - work specifications and drawings
 - basic instructions and standard operating procedures

- recognising routine problems that may occur when using and caring for hand and power tools, including identifying:
 - glazed, loaded or untrue grinding wheel condition
 - hand and power tools that are found to be defective or worn
 - incidents and problems involving the use of hand and power tools
- selecting appropriate hand and power tools to complete assigned tasks
- storing tools and equipment after use according to standard operating procedures
- taking appropriate action to promptly report incidents, problems and hazards including equipment faults
- using personal protective clothing and equipment:
 - eye and ear protection
 - boots
 - masks
- using tools and equipment safely according to:
 - International Safety Management (ISM) Code and associated vessel safety management system and procedures
 - WHS/OHS regulations and hazard prevention policies and procedures
 - tool manufacturer instructions
 - established job procedures and work instructions
 - housekeeping processes
- working safely and collaboratively with others when using and caring for hand and power tools.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- characteristics and identifying features of common engineering drill bits
- environmental protection measures when carrying out basic engineering tasks
- established procedures for the use and care of hand or power tools required for work tasks
- hazards and related safety precautions when using hand or power tools on board a vessel including:
 - electric shock
 - moving and rotating blades and attachments
 - non-compliance with safe working procedures
 - poor housekeeping procedures
 - sharp blades
 - sparks in areas where flammable and explosive substances are stored
 - unsecured machinery, components or equipment

- using tools beyond safe working limits
- ISM Code safety management procedures as they relate to the use of hand and power tools on board a vessel
- procedures for dressing and/or truing a grinding wheel
- procedures for identifying a glazed, loaded or untrue grinding wheel condition
- relevant WHS/OHS and pollution control legislation and policies including the International Convention for the Prevention of Pollution from Ships (MARPOL)
- standard procedures for marking out work to specifications, and measuring and checking the quality of finished work.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations where the use of a range of hand and power tools can be demonstrated. Where this is not available, in simulated workplace operational situations that replicate workplace conditions.

Resources for assessment include access to:

- applicable documentation including workplace procedures, regulations, legislation, codes of practice and operation manuals including:
 - ISM Code safety management system plans, procedures, checklists and instructions
 - relevant international, commonwealth, state/territory WHS/OHS legislation
 - supervising officer orders and instructions
 - instructions from manufacturers of tools and equipment
 - vessel and company procedures
- relevant and appropriate materials, equipment and personal protective equipment, that replicates and are currently used in industry
- power tools, air, battery and electric powered including:
 - air operated chisels
 - drilling jigs
 - needle guns
 - portable and pedestal power drills
 - portable and pedestal grinders

- hand tools and gauges including:
 - chisels
 - drill bits
 - feeler gauge
 - files
 - form gauge
 - hacksaws and nibblers
 - hammers
 - punches
 - radius gauge
 - screw pitch gauge
 - snips
 - spanners, screwdrivers and pliers
 - taps and tap wrench
 - thickness gauge
 - torque wrenches
 - vice grip.

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