



Australian Government

MARB017 Perform routine maintenance and repairs on a vessel

Release: 1

MARB017 Perform routine maintenance and repairs on a vessel

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to perform routine remedial, preventative and survey deck maintenance and repairs. It includes basic deck maintenance, cleaning tasks, marine painting, and servicing deck machinery and systems on a vessel.

This unit applies to an Integrated Rating or Able Seafarer-Deck/Engine engaged in a range of maintenance activities required on a range of vessels, under the direction of the officer in charge of the deck watch.

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

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare for work

PERFORMANCE CRITERIA

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

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| 1.1 | Maintenance and repair activities are identified from work orders and are clarified with the officer in charge of the deck watch |
| 1.2 | Relevant plans, drawings and texts are interpreted to determine job specifications |

- 1.3 Resources required to complete tasks are identified, obtained and inspected for compliance with job specifications
- 1.4 Appropriate fall arrest and restraint devices are selected and used according to work health and safety (WHS)/ occupational health and safety (OHS) requirements when working at heights or overside
- 1.5 Tasks are sequenced and prioritised
- 1.6 Coordination requirements are resolved with the officer in charge of the deck watch and others involved or affected by the work
- 1.7 Potential hazards are identified and prevention and/or control measures are selected according to work plan and organisational procedures
- 2 Perform basic deck maintenance**
 - 2.1 Suitable personal protective clothing is selected and used according to WHS/OHS requirements
 - 2.2 Deck surfaces are checked according to planned maintenance system
 - 2.3 Deterioration or corrosion of deck surfaces is identified and appropriate maintenance action is carried out according to manufacturer instructions and organisational procedures
 - 2.4 Minor faults and imperfections in paint surfaces are repaired according to manufacturer instructions and organisational procedures
 - 2.5 Weathered surfaces are restored using cleaners and liquid abrasives according to manufacturer instructions and organisational procedures
 - 2.6 Tools and equipment are used correctly and safely
 - 2.7 Maintenance materials are obtained, prepared and applied according to manufacturer instructions and organisational procedures
- 3 Carry out cleaning tasks**
 - 3.1 Suitable personal protective clothing is selected and used according to WHS/OHS requirements
 - 3.2 Area to be cleaned is prepared and hazards are identified
 - 3.3 Work area is barricaded or warning signs are provided as required to reduce risk to other crew members

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| | 3.4 | Correct chemicals and cleaning agents are selected and applied according to manufacturer instructions and WHS/OHS requirements |
| | 3.5 | Equipment is used correctly and safely |
| | 3.6 | Cleaning tasks are completed according to manufacturer instructions and organisational procedures |
| 4 Prepare and paint surfaces | 4.1 | Suitable personal protective clothing is selected and used according to WHS/OHS requirements |
| | 4.2 | Surfaces are prepared using correct equipment |
| | 4.3 | Rust remover, rust converter and undercoats are applied according to manufacturer instructions |
| | 4.4 | Paints are mixed in correct proportions according to manufacturer instructions |
| | 4.5 | Paint is applied using appropriate application equipment |
| 5 Carry out routine maintenance of deck fittings, equipment and systems | 5.1 | Fittings and equipment are inspected and inspection results are compared with manufacturer specifications |
| | 5.2 | Maintenance tasks are carried out to specification |
| | 5.3 | Mechanical equipment and system components are checked with appropriate instruments |
| | 5.4 | Faulty items or components are identified and appropriate maintenance procedure is selected |
| | 5.5 | Unserviceable equipment is tagged according to organisational procedures |
| 6 Repair/replace faulty fittings and equipment | 6.1 | Fittings and equipment are safely isolated according to regulations and WHS/OHS requirements |
| | 6.2 | Faulty fittings or equipment are removed using appropriate tools, equipment and procedures |
| | 6.3 | Replaceable items are selected or serviceable items are repaired according to manufacturer specifications |
| | 6.4 | Adjustments are made to fittings or equipment to comply with specifications |
| | 6.5 | Operational check is carried out to ensure compliance with manufacturer specifications |

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| | 6.6 | Maintenance report is completed according to organisational procedures |
| 7 Clean up | 7.1 | Work area is cleared and cleaned |
| | 7.2 | Materials are disposed of or recycled according to legislative and organisational requirements |
| | 7.3 | Tools and equipment are checked, maintained and stored 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.

Maintenance and repair activities include the following:

- fire and bilge pumps greasing and oiling
- lifebuoys and lifejackets – subject to regular inspection
- lifesaving appliances – regular inspection and maintenance of lifeboats and equipment, which may include replacing lashings, wires, expired food, and general cleaning and painting
- ropes and wires – inspecting for damage, repairing damaged areas (splicing), replacing, where necessary, such items as mooring lines, cargo wires, lashings, lifeboat falls
- rust prevention

Unit Mapping Information

This unit replaces and is equivalent to MARB3003A Perform routine maintenance and repairs 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 MARB017 Perform routine maintenance and repairs on a vessel

Modification History

Release 1. New unit of competency.

Performance Evidence

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

- applying corrosion control and preventive measures/maintenance
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- applying safe and environmentally responsible work practices when performing routine remedial, preventative and survey deck maintenance on a vessel
- applying surface preparation techniques
- communicating with other personnel using effective:
 - listening techniques
 - questioning to confirm understanding
 - verbal and non-verbal language
- completing any required records when performing routine remedial, preventative and survey deck maintenance on a vessel
- correctly using paint, lubrication and cleaning materials and equipment
- following required work schedule according to organisational requirements
- reading and interpreting instructions for performing routine remedial, preventative and survey deck maintenance on a vessel
- reading and interpreting manufacturer specifications and safety data sheets (SDSs)/material safety data sheets (MSDSs)
- recognising routine problems when performing routine remedial, preventative and survey deck maintenance on a vessel
- selecting, using and maintaining suitable lifting gear
- selecting and using relevant tools, equipment and materials
- undertaking regular testing with repairs, as required
- using fall arrest and restraint devices, as required.

Knowledge Evidence

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

- application, use, type and maintenance of lifting gear used on a vessel
- component parts, operation and routine maintenance requirements of vessel machinery
- corrosion control and preventive measures/maintenance, paint systems and surface preparation techniques
- job safety analyses (JSAs)/safe work method statements (SWMSs)
- maintenance records for a vessel
- manufacturer safety guidelines and shipboard instruction
- nature and causes of corrosion of marine surfaces and structures, and available methods of control
- organisational procedures for cleaning and maintenance
- paint types suitable for interior and exterior application on a vessel
- planned maintenance systems
- principal parts of a vessel and basic design methods
- principles and procedures of machinery lubrication as they relate to vessel machinery
- procedures for:
 - checking deck areas, machinery and fittings of a vessel as part of the planned routine maintenance on a vessel
 - using hand tools for routine maintenance operations
- relevant WHS/OHS requirements, work practices and pollution control regulations and policies
- safe disposal of waste materials according to with the International Convention for the Prevention of Pollution from Ships (MARPOL Convention)
- safety management system as it relates to planned vessel maintenance systems
- storage requirements for paints, chemicals and cleaning agents used in planned maintenance operations
- suitable equipment cleaning and preservation techniques used on board a vessel
- surface preparation techniques, including:
 - abrasive blast cleaning
 - flame cleaning
 - hand and power tool cleaning
- type, characteristics and functions of:
 - equipment/tools used in cleaning and maintenance
 - vessel machinery and equipment
- use of various vessel construction material and regulations governing structure.

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 in a range of locations including:

- battery room
- exposed deck area
- firefighting equipment spaces
- store room
- wheelhouse and accommodation area.

Where this is not available, in simulated workplace operational situations that replicate workplace conditions.

Resources for assessment include access to:

- relevant documentation including workplace procedures, regulations, codes of practice and operation manuals
- tools, equipment, materials and fittings that replicate and are currently used in industry including:
 - cleaning chemicals, agents and equipment
 - fall arrest and restraint devices
 - fuel, fresh and ballast water, bilge and firefighting pumps
 - hand tools
 - lifting equipment
 - navigation lights and shapes
 - paint residues
 - power tools
 - rags
 - spent oil
 - steering gear
 - windlass and capstan
- personal protective equipment currently used in industry.

Links

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