



Australian Government

MARC2002A Maintain hull out of water

Release 1

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Modification History

Release 1

This is the first release of this unit.

This unit replaces and is equivalent to TDMMB1907B Carry out basic hull servicing.

Unit Descriptor

This unit involves the skills and knowledge required to carry out basic maintenance to vessel hull while it is out of water.

Application of the Unit

This unit applies to engine workers in the maritime industry working as a Marine Engine Driver Grade 3 on vessels up to 500 kW or as a Marine Engine Driver Grade 2 on vessels up to 750 kW or as a Marine Engine Driver Grade 1 on vessels up to 1500 kW.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

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

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|---|---|
| 1 Prepare for work | <ul style="list-style-type: none">1.1 Planned maintenance program for hull type and construction material is accessed to determine hull maintenance requirements1.2 Vessel is inspected and additional maintenance requirements are determined1.3 Maintenance tasks are planned and sequenced in conjunction with others involved in or affected by maintenance work1.4 Repair tools and equipment are selected and checked for serviceability1.5 Work area is prepared |
| 2 Carry out required maintenance and repairs to hull, equipment and fittings | <ul style="list-style-type: none">2.1 Suitable personal protective equipment is selected and used according to work health and safety (WHS)/occupational health and safety (OHS) requirements2.2 Permits for hot work, confined space entry and other high risk activities are completed according to organisational and regulatory requirements2.3 Tasks are performed according to manufacturer specifications, maintenance yard requirements and organisational practices |
| 3 Clean up and complete documentation | <ul style="list-style-type: none">3.1 Work area is cleared and cleaned for serviceable condition3.2 Materials are disposed of or recycled according to legislative and organisational requirements3.3 Tools and equipment are cleaned, checked and stored according to organisational procedures3.4 Maintenance report is completed according to workplace procedures |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required Skills:

- Ensure work is carried out to regulatory requirements for issue or endorsement of relevant certificates
- Explain procedures and techniques for hull maintenance according to regulations and vessel operating procedures
- Implement safe and environmentally responsible work practices
- Plan and prepare for maintenance including systematic isolation, dismantling and reassembly of parts
- Read, interpret and apply:
 - manufacturer instructions including all WHS/OHS requirements and safety data sheets (SDS)/material safety data sheets (MSDS)
 - operating and service manuals for maintenance of vessel hull
- Recognise:
 - faulty equipment
 - hull damage and deterioration, and take appropriate action according to organisational procedures
- Select and use correct tools and equipment for maintenance task

Required Knowledge:

- Component parts, operation and routine maintenance requirements of vessel, equipment and fittings
- Differences in vessels, hull structures and equipment
- Functions of underwater equipment
- Hazards of working in confined spaces
- Hull maintenance
- Maintenance hazards and problems
- Nature and causes of corrosion of marine surfaces and structures, and available methods for its control
- Organisational procedures for maintenance
- Principles and procedures of lubrication as they relate to underwater vessel equipment and fittings
- Procedures for:
 - checking and inspecting vessel hull as part of routine maintenance program
 - initiating and coordinating repair and/or replacement of underwater equipment and fittings
- Relevant WHS/OHS legislation

- Types, characteristics and functions of equipment/tools used in maintenance
- Use of sacrificial anodes

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, the required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- implementing workplace environmental and waste management procedures correctly
- working safely at all times.

Context of and specific resources for assessment

Performance is demonstrated consistently over time and in a suitable range of contexts.

Resources for assessment include access to:

- industry-approved marine operations site where maintaining vessel hull out of water can be conducted
- tools, equipment and personal protective equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities
- range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Method of assessment

Practical assessment must occur in an:

- appropriately simulated workplace environment and/or
- appropriate range of situations in the workplace.

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate to this unit:

- direct observation of the candidate maintaining vessel hull out of water
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

In all cases where practical assessment is used it should be combined with targeted questioning to assess Required Knowledge.

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

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

Maintenance tasks may include:

- Examining anchors and cables
- Inspecting and repairing:
 - hull fittings
 - stern drive and jet drive systems
 - watertight and weather tight hatches
- Inspecting and replacing anodes
- Withdrawing and examining:
 - propeller, shafts and seals
 - rudder, rudder stock and seals

Repair tools and equipment may include:

- Hand and power tools
- Ladders
- Personal protective equipment
- Specialised tools

Materials may include:

- Cleaning chemicals
- Lubricants
- Rags
- Rust treatments
- Spare parts
- Spent oils and grease
- Used components

Unit Sector(s)

Not applicable.

Competency Field

Equipment Operations