



Australian Government

MARB006 Maintain marine internal combustion engines, propulsion plant and auxiliary systems

Release: 2

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Modification History

Release 2. In Performance Criteria 1.6 removed as it duplicated 1.1. Mapping information has been corrected.

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to complete basic maintenance of marine internal combustion engines, propulsion plant and auxiliary systems.

This unit applies to engine workers in the maritime industry working as a Marine Engine Driver Grade 2 Near Coastal on vessels up to 750 kW.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance

Unit Sector

Not applicable.

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1 Plan maintenance activities

1.1 Maintenance plan is accessed to determine maintenance requirements for engines, propulsion plant and auxiliary systems

1.2 Inspections are conducted and additional non-routine maintenance requirements are determined

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| | 1.3 | Manufacturer specifications for machinery and equipment are obtained |
| | 1.4 | Tasks are planned and sequenced in conjunction with others involved in or affected by maintenance work |
| | 1.5 | Consumables and equipment are selected and checked for serviceability |
| 2 Complete preventative maintenance | 2.1 | Machinery and equipment is safely isolated according to work health and safety/occupational health and safety (WHS/OHS) requirements and organisational practices |
| | 2.2 | WHS/OHS risk control measures and procedures for carrying out work are followed |
| | 2.3 | Work area is prepared |
| | 2.4 | Preventative maintenance is carried out in compliance with technical specifications |
| | 2.5 | Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes |
| | 2.6 | Maintenance work is checked to verify that it conforms to technical specifications and complies with survey requirements where applicable |
| 3 Complete breakdown maintenance | 3.1 | Nature of breakdown is confirmed using maintenance records and/or logbook entries related to reported breakdown |
| | 3.2 | Restrictions are applied to operations, where necessary, and Master is informed |
| | 3.3 | Machinery and equipment is safely isolated according to WHS/OHS requirements and organisational practices |
| | 3.4 | Repair work is carried out according to technical specifications |
| | 3.5 | Master is notified of completion of repair work and details are documented |
| 4 Complete hull maintenance | 4.1 | Checks of vessel hull, equipment and fittings are carried out according to maintenance schedules, survey requirements and vessel manufacturer instructions |
| | 4.2 | Deterioration in vessel structure, equipment and fittings is identified |

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| 4.3 | Checks on propeller, stern tube and rudder are carried out in accordance with organisational procedures, safety regulations and survey requirements |
| 4.4 | WHS/OHS risk control measures and procedures for carrying out work are followed |
| 4.5 | Work area is prepared |
| 4.6 | Maintenance work is checked to verify it conforms to technical specifications and complies with survey requirements where applicable |
| 5 | Clean up and complete documentation |
| 5.1 | Work area is cleared and cleaned |
| 5.2 | Materials are disposed of or recycled according to legislative and workplace requirements |
| 5.3 | Tools and equipment are cleaned, checked and stored according to workplace procedures |
| 5.4 | Machinery and equipment is returned to service and monitored for correct operation according to organisational practices |
| 5.5 | Maintenance report is completed according to workplace procedures |
| 5.6 | Work area is cleared and cleaned |

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.

Maintenance requirements include one or more of the following:	• cleaning: • filters • coolers • greasing • maintaining emergency equipment • oiling • oily water separator • overhauling and repairing pumps • scheduled survey inspections • topping up oils
Engines, propulsion plant and auxiliary systems include one or more of the following:	• auxiliary equipment and associated spaces • cooling systems • deck machinery • fixed firefighting systems • fuel systems • gearbox • hull fittings • lubricating systems • marine two- and four-stroke: • diesel engines • petrol engines • propeller and immediate shafting alignment • pumping systems • refrigeration systems • steering systems • sterndrive and water jet drive units
Consumables and equipment include one or more of the following:	• cleaning chemicals • coolants • hand and power tools • oils and grease • refrigerant gas • replacement parts • test equipment
Nature of breakdown includes one or more of the following:	• cooling water system failure • engine failure • exhaust systems • fuel system failure

- Checks of vessel hull, equipment and fittings include one or more of the following:
- gearbox failure
 - lubricating systems failure
 - power plant failure
 - propeller and shafting arrangements
 - pumping systems failure
 - refrigeration plant failure
 - steering gear failure
 - anodes
 - intake grates
 - keel coolers
 - ship side valves
 - watertight hatches and openings

- Materials include one or more of the following:
- rags
 - spent oil

Unit Mapping Information

This unit replaces and is equivalent to MARB3006A Maintain marine internal combustion engines, propulsion plant and auxiliary systems.

MARB3006A replaces and is equivalent to TDMMB290B Recognise and correct deteriorated fittings and machinery.

Links

MAR Maritime Training Package Companion Volume Implementation Guide at: -
http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=22