



Australian Government

MARB002 Perform basic servicing and maintenance of main propulsion unit and auxiliary systems

Release: 1

MARB002 Perform basic servicing and maintenance of main propulsion unit and auxiliary systems

Modification History

Release 1.0 New unit of competency.

Application

This unit involves the skills and knowledge required to perform basic maintenance and servicing of main propulsion units and auxiliary systems.

This unit applies to deck workers in the maritime industry on vessels up to 12 metres in near coastal waters.

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 Prepare for work

- 1.1 Manufacturer equipment specifications are obtained
- 1.2 Safety requirements associated with maintaining equipment and workplace environment are implemented
- 1.3 Tasks are planned and sequenced in conjunction with others involved in or affected by maintenance work
- 1.4 Tools and equipment are selected and checked for serviceability
- 1.5 Work area is prepared

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| 2 Carry out routine service | 2.1 Equipment is inspected and inspection results are compared with manufacturer specifications |
| | 2.2 Servicing tasks are carried out to specification |
| | 2.3 Mechanical equipment and system components are checked with appropriate instruments |
| | 2.4 Faulty items or components are identified and serviceability/ unserviceability is determined |
| | 2.5 Unserviceable equipment is tagged according to workplace procedures |
| 3 Repair/replace faulty components | 3.1 Equipment is safely isolated according to regulations and/or work health and safety (WHS)/occupational health and safety (OHS) requirements |
| | 3.2 Faulty items or components are removed using appropriate tools and equipment according to workplace procedures |
| | 3.3 Replaceable items are selected or serviceable items are fitted according to manufacturer specifications |
| | 3.4 Adjustments are made to equipment or components to comply with specifications |
| | 3.5 Operational check is carried out on system to ensure its compliance with manufacturer specification |
| | 3.6 Maintenance report is completed according to workplace procedures |
| 4 Clean up | 4.1 Work area is cleared and cleaned |
| | 4.2 Materials are disposed of or recycled according to legislative and workplace requirements |
| | 4.3 Tools and equipment are cleaned, checked and stored according to workplace procedures |

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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

competency.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

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

- Equipment must include:
- auxiliary equipment
 - bilge systems
 - cooling, lubricating and fuel systems
 - drive train assembly
 - fire pumping arrangements
 - low voltage electrical systems
 - monitoring machinery
 - petrol, diesel and outboard engines
 - shore power leads and connections
 - steering gear
 - two and four stroke engines
- Safety requirements include one or more of the following :
- personal protective equipment (PPE) including that prescribed under legislation, regulation and organisational policies and procedures
 - safe operating procedures including recognising and preventing hazards associated with the use of tools and equipment, dangerous materials, working at heights, working at proximity to others, worksite visitors and the public
 - state/ territory WHS/OHS requirements (specifically relating to PPE, use of tools and equipment, workplace environment and safety, handling of materials, hazard control, hazardous materials and substances)
 - emergency procedures including emergency shutdown and stopping of equipment, extinguishing fires, organisational first aid requirements, evacuation
- Tools and equipment include one or more of the
- hand and power tools
 - ladders

following:

- test equipment

Servicing tasks include one or more of the following:

- battery maintenance
- carrying out manufacturer instructions for pre-start checks
- checking
 - shaft glands
 - strainers
 - cooling system
 - fuel levels
 - fuel systems
- greasing
- oiling
- visually checking for oil leaks
- visually checking, identifying and reporting obvious equipment faults

Faulty items or components include one or more of the following:

- batteries and connections
- engine parts
- fuel pump

Materials include one or more of the following:

- rags
- spent oil

Unit Mapping Information

This is a new unit. This unit is equivalent to MARB2001A Perform basic servicing and maintenance of main propulsion unit and auxiliary systems.

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 MARB002 Perform basic servicing and maintenance of main propulsion unit and auxiliary systems

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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:

- completing all work to specification
- completing relevant logbooks and service reports
- implementing safe and environmentally responsible work practices in servicing and maintenance activities
- providing the required amount of detail in reports
- reading and interpreting gauges
- reading and interpreting manufacturer specifications and safety data sheets (SDS)/material safety data sheets (MSDS)
- selecting and using appropriate processes, tools and equipment
- servicing and maintaining propulsion machinery and auxiliary equipment to manufacturer specifications.

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:

- bleeding fuel systems
- care of low voltage electrical systems on a vessel including precautions necessary when charging batteries
- environmental impacts and minimisation measures associated with servicing and maintaining propulsion machinery and auxiliary equipment
- job safety analyses (JSAs) and safe work method statements
- manufacturer specifications for servicing and maintaining propulsion machinery and auxiliary equipment
- operating principles and operating methods for propulsion machinery and auxiliary equipment
- potential risks and hazards associated with servicing and maintaining propulsion machinery and auxiliary equipment
- processes of maintaining propulsion machinery and auxiliary equipment
- relevant WHS/OHS and personal protective equipment (PPE) requirements

- routine checks required when servicing and maintaining propelling machinery, auxiliary equipment and other mechanical equipment.

Assessment Conditions

Assessors must satisfy National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) assessor requirements.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

Resources for assessment must include access to:

- tools, equipment, machinery, materials and personal protective equipment currently used in industry
- applicable documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- range of relevant exercises, case studies and/or simulations.

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