



Australian Government

Assessment Requirements for MARB035 Contribute to routine engine maintenance on a vessel

Release: 1

Assessment Requirements for MARB035 Contribute to routine engine maintenance on a vessel

Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

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:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- appropriately using and selecting personal protective equipment (PPE)
- assisting in maintaining and servicing marine systems/components, including:
 - batteries
 - cooling systems/components
 - engine mounting systems/components
 - exhaust systems/components
 - fuel systems/components
 - intake systems/components
 - lubrication systems/components
- communicating with other personnel using effective:
 - listening techniques
 - questioning to confirm understanding
 - verbal and non-verbal language
- confirming maintenance to be undertaken and identifying resource requirements with the officer in charge of the engineering watch
- ensuring behaviour reflects relevant current legislative and regulatory requirements
- ensuring currency of relevant WHS/OHS skills and knowledge
- identifying hazards and safety issues and reporting these to the engineering officer of the watch
- identifying tools, equipment and materials required to undertake maintenance tasks
- using electrical equipment safely and applying:
 - correct emergency procedures
 - different voltages in use onboard vessel
 - isolation procedures
 - precautions to prevent electric shock
 - safety precautions before commencing work

- using painting, lubrication and cleaning materials and equipment safely.

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:

- causes of electric shock and precautions to be observed to prevent shock
- electrical principles covering voltage, current, resistance, power, magnetic and inductance
- engine room cleaning procedures and relevant cleaning agents
- engine room hazards and safety, including:
 - electrical safety
 - gas testing
 - head of water/fluid
 - heat stress
 - high pressures
 - hot fluids
 - mechanical safety
 - noise
 - pollution
 - steam
 - toxic gases
 - ventilation
 - vibration
- engine room machinery and equipment, including:
 - air compressors
 - air start systems
 - bilge system, bilge pumps, bilge pick-ups, bilge valves and bilge piping
 - engine protection devices (crankcase mist detectors)
 - hydraulic systems, power packs, rams and motors, and directional control valves (DCVs)
 - oily water separators
 - osmosis plant
 - pumps – positive displacement, centrifugal and axial flow
 - purifiers and clarifiers
 - refrigeration and air conditioning plant
 - sewage treatment plant
 - slow speed, medium speed and high-speed diesels
 - steering systems
 - valves – globe and full flow, screw down non-return, screw lift, butterfly, ball, relief, non-return and gate

- water making (both freshwater generators and reverse)
- maintenance and servicing tasks, including:
 - economiser cleaning
 - engine room rounds (daily/weekly/monthly maintenance checks)
 - greasing and oiling of machinery
- inspection and maintenance of:
 - hatches, watertight doors and deadlights
 - hoists and lifting equipment
- manufacturer safety guidelines and shipboard instructions
- mechanical principles covering the concepts of mechanical, hydraulic and pneumatic systems
- purpose of isolation procedures and application of lock out tags
- relevant WHS/OHS requirements, work practices and pollution control regulations and policies
- rights and responsibilities of individuals about lock out and tagging of plant and equipment
- routine inspection of hand and power tools, measuring instruments and machinery tools
- routine maintenance and repair procedures
- safe disposal of waste materials
- scavenge space cleaning
- soot blowing
- surface preparation and painting
- surface preparation techniques, including:
 - abrasive blast cleaning
 - hand and power tool cleaning
- types, functions and limitations of marine equipment/components, including:
 - cooling systems/components
 - engine mounting systems/components
 - engines
 - exhaust systems/components
 - fuel systems/components
 - intake systems/components
 - lubrication systems/components.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the

time of assessment.

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.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

Links

Companion Volume implementation guide can be found in VetNet -

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