



Australian Government

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

Release: 2

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Modification History

Release 2. Clarification of guidance information in Performance Evidence, Knowledge Evidence and Assessment Conditions.

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 safety requirements throughout the work sequence including the use of personal protective equipment (PPE)
- completing:
 - all work to specification
 - basic user maintenance of marine internal combustion engine, propulsion plant and auxiliary systems to manufacturer specifications and survey requirements, so as to prevent pollution of the marine environment
- maintenance records
- developing effective planning documents
- implementing safe and environmentally responsible work practices
- planning maintenance activities according to technical, legislative, safety and procedural specifications
- reading and interpreting manufacturer specifications and safety data sheets (SDS)/material safety data sheets (MSDS).

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:

- basic hydraulic systems and user maintenance requirements
- basic vessel construction
- bearing types, materials, installation and lubrication
- common faults in:
 - steering gear
 - refrigeration systems
- construction and maintenance of heat exchangers
- correct pressure and flow conditions
- corrosion prevention
- coupling types, fitting, keys and keyways
- cross connections between:
 - sea water systems and bilge systems
 - bilge/ballast/seawater systems and fire main
- dangers associated with:
 - back-flooding and methods to prevent back-flooding
 - liquefied petroleum gas (LPG) and petrol vapours
- dangers of refrigerant gas leaks in confined spaces
- diesel engine:
 - construction
 - fuel injection, timing and control equipment
 - routine maintenance
- engine:
 - fault finding techniques
 - performance and reasons for lack of performance
 - protection arrangements
- electro-hydraulic steering gear
- emergency steering systems
- faults that can occur with firefighting equipment and systems
- fire main system and components including pumps, hoses and nozzles
- fixed firefighting systems and associated remote shut-offs and closing of appliances
- heat exchanger, keel cooler and raw water cooling systems
- glands, packing and seals
- maintenance of watertight openings and hull fittings
- marine gearbox faults and emergency operation
- method of propulsion reversal including controllable pitch propeller construction
- oil:
 - filter changing procedures
 - quality monitoring
- planned maintenance
- propeller types, fitting, keys and keyways, securing nuts , locking

- pump capabilities and requirements for priming
- refrigeration systems and components
- relevant regulations and codes of practice relating to the maintenance of engineering equipment and systems such as firefighting
- routine maintenance:
 - on steering systems
 - of refrigeration systems
- rudder and stock bearing supports
- rudder construction and rudder types
- seawater circulating systems
- shutting down machinery
- statutory and organisational requirements for documentation relating to the maintenance of engineering equipment and systems such as firefighting
- storage of LPG cylinders
- testing of LPG detectors
- tiller arm attachment
- types of:
 - deck machinery
 - pumps and safety devices
- wet sump lubrication systems.

Assessment Conditions

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

Assessment must satisfy the National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) standards.

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.

Links

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