



Australian Government

MARC037 Operate inboard and outboard motors

Release: 2

MARC037 Operate inboard and outboard motors

Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor clarifying statement change to PC1.4
- Minor statement changes in Assessment Conditions.

Release 1. New unit of competency. Licensing/regulatory information has been incorporated in accordance with Regulatory requirements. Assessment Requirements have been strengthened in accordance with Regulatory requirements.

Application

This unit involves the skills and knowledge required to operate inboard and outboard motors, and to diagnose basic faults.

This unit applies to people working in the maritime industry in the capacity of:

- Coxswain Grade 1 Near Coastal
- Coxswain Grade 2 Near Coastal.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Coxswain Grade 2 NC and a Coxswain Grade 1 NC, as specified in Marine Order 505.

Seafarers seeking certification should check with AMSA.

Pre-requisite Unit

Not Applicable.

Competency Field

C – Equipment Operations

Unit Sector

Not Applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Operate inboard and outboard motors

- 1.1** Pre-start checks are performed on the motor
- 1.2** Fuel is checked to ensure there is adequate fuel, including a reserve, on board
- 1.3** Motor is started and stopped safely and correctly
- 1.4** Motor controls are used to manoeuvre an outboard or inboard vessel safely to complete work tasks
- 1.5** Motor is operated within safe limits during normal manoeuvres

2 Secure vessel on completion of work task

- 2.1** Vessel is moored safely
- 2.2** Fuel system is closed down
- 2.3** Vessel is secured
- 2.4** Fuel is stored to minimise environmental and fire hazards as appropriate
- 2.5** Unserviceable equipment is reported and tagged out as unserviceable

3 Maintain inboard and outboard motors

- 3.1** Fuel filters are drained of excess water
- 3.2** Batteries and connections are maintained to ensure reliable electrical supply to the motor
- 3.3** Engine and gearbox oil is checked and lubrication is applied
- 3.4** Engine mounting gear is checked as necessary

4 Identify basic inboard and outboard motor faults

- 4.1** Operating difficulties caused by fuel-related factors are identified
- 4.2** Electrical faults are identified, tagged out and reported

- 4.3** Motor propulsion faults are identified, tagged out and reported

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.

Unit Mapping Information

This unit replaces and is equivalent to MARC005 Operate inboard and outboard motors.

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 MARC037 Operate inboard and outboard motors

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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:

- applying work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- conducting pre-start checks, including checking:
 - cooling system
 - fuel
 - lubricating oil
 - motor attachment points
 - water depth
- conducting shutdown checks on inboard and outboard motors, and tagging out and reporting faults
- estimating fuel consumption
- reading and interpreting company standard operating procedures (SOPs) about operating inboard and outboard engines
- storing inboard or outboard motors
- using inboard and outboard motor steering system.

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:

- battery connection and hazards
- International Convention for the Prevention of Pollution from Ships (MARPOL) requirements as it applies to operating inboard and outboard motors

- motor:
 - cooling systems
 - fuel systems
 - lubricating systems
- risks associated with portable fuel tanks
- standard procedures to tag out and report faults
- starting motors
- troubleshooting techniques
- WHS/OHS requirements and work practices.

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 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, safety management system, workplace procedures and operational manuals
- a vessel greater than or equal to 5.0 metres in length with propulsion power of greater than or equal to 75 kW, or appropriate engine ashore
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

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