



**Australian Government**

# **MARC006 Operate main propulsion unit and auxiliary systems**

**Release: 1**

# MARC006 Operate main propulsion unit and auxiliary systems

## Modification History

Release 1. New unit of competency.

## Application

This unit involves the skills and knowledge required to safely operate the main propulsion unit and auxiliary systems on a vessel up to 12 metres with a propulsion power:

- for an inboard engine < 500 kW
- for an outboard engine of unlimited power.

This unit applies to deck and engine workers working in the maritime industry on vessels up to 12 metres.

This unit has links to legislative and certification requirements.

## Pre-requisite Unit

Not applicable.

## Competency Field

C – Equipment Operations

## 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 propulsion unit and auxiliary system for use**

- 1.1 Appropriate personal protective clothing and equipment is selected, used, maintained and stored according to work health and safety (WHS)/occupational health and safety (OHS) requirements
- 1.2 Routine pre-operational checks are carried out on equipment according to manufacturer specifications and workplace requirements

- 1.3 Deviations from the norm are promptly identified and rectified
  - 1.4 Adjustments are made to achieve a safe and efficient operation
  - 1.5 Inability to start up equipment is reported promptly and accurately to appropriate personnel
- 2 Operate propulsion unit and auxiliary system**
- 2.1 Equipment is operated in a safe and controlled manner
  - 2.2 Performance and efficiency of equipment is monitored according to manufacturer instructions
  - 2.3 Equipment is maintained within defined operating limits when running, to achieve optimum safety and efficiency
  - 2.4 Environmental implications associated with operating equipment are identified and controlled
  - 2.5 Deviations from normal operations are promptly identified
  - 2.6 Action is taken to rectify irregularities to maintain optimum safety and efficiency
- 3 Check and complete propulsion unit and auxiliary system operation**
- 3.1 Equipment shut-down procedures are carried out according to manufacturer specifications and workplace procedures
  - 3.2 Equipment operational records are maintained according to workplace procedures
  - 3.3 Equipment damage, malfunctions or irregular performance are recorded and reported according to workplace procedures
  - 3.4 Equipment is cleaned according to manufacturer specifications and 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.

Personal protective clothing and equipment include one or more of the following:

- boots
- gloves
- hard hat
- hearing protection
- overalls
- protective eyewear
- respirator or facemask

Pre-operational checks include one or more of the following:

- checking and confirming equipment calibration settings
- inspecting safety guards, power take off stubs and shafts
- observing and monitoring noise levels for correct operation
- pre-start and safety checks including:
  - oils and lubricants
  - fuel systems
  - leads
  - lines
  - connections

- 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
- Safe and controlled manner include one or more of the following:
- appropriate selection and use of machinery and equipment
  - maintaining workloads within specifications
  - using operational techniques for the specific location and weather conditions
- Environmental implications include one or more of the following:
- excessive noise and exhaust emissions
  - incorrect use of maintenance debris for example oils, containers, chemical residues
  - hazardous substances

## Unit Mapping Information

This is a new unit. This unit is equivalent to MARC2006A Operate main propulsion unit and auxiliary systems.

## Links

MAR Maritime Training Package Companion Volume Implementation Guide at: -  
[http://companion\\_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=22](http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=22)