



Australian Government

MEM25011 Install marine systems

Release: 1

MEM25011 Install marine systems

Modification History

Release 1. Supersedes and is equivalent to MEM25011B Install marine systems

Application

This unit of competency defines the skills and knowledge required to install and test engine/plant and ancillary equipment relevant to propulsion, stability, steering and fuel systems for mechanically powered marine vessels and application can apply to drive systems, including inboard/outboard, water jet and side thrusting units (excluding outboard motor installation).

Site locations can include new or existing external and internal locations for foundations, footings, beds and frameworks completed prior to installation and commissioning and tasks can be undertaken in a workshop/site, moored or in a sea-trial situation.

Where technical drawings are required to be interpreted unit MEM09002 Interpret technical drawing should also be selected.

Where load shifting equipment is required to be used unit MEM11010 Operate mobile load shifting equipment should also be selected.

Where moveable and fixed load shifting equipment is required to be used unit MEM11022 Operate fixed/moveable load shifting equipment should also be selected.

Where installation only is required unit MEM25015 Assemble and install equipment and accessories/ancillaries should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 8

Pre-requisite Unit

MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Competency Field

Marine craft construction

Elements and Performance Criteria

Elements describe the essential outcomes.

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

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|---|-------------------------------------|-----|---|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, job sheets or work instructions |
| 2 | Prepare installation site | 2.1 | Check site features using appropriate measuring equipment |
| | | 2.2 | Report non-compliance with specification to appropriate authority |
| | | 2.3 | Undertake modifications with approval of appropriate authority |
| | | 2.4 | Prepare installation site and components |
| 3 | Install marine engines/plant | 3.1 | Carry out all work in accordance with site procedures and relevant Australian Standards |
| | | 3.2 | Prepare engine/plant components and ancillary equipment for correct sequential installation |
| | | 3.3 | Install engine/plant in accordance with manufacturer's site specifications |
| | | 3.4 | Check engine/plant for conformance to specifications, and undertake modifications/adjustments according to procedures |
| | | 3.5 | Install engine/plant in accordance with specifications |

Elements describe the essential outcomes.

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

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|---|--|-----|---|
| | | 3.6 | Finalise site conditions in accordance with WHS requirements and SOPs |
| | | 3.7 | Complete documentation to required specifications |
| 4 | Test engine/plant systems and ancillary equipment | 4.1 | Identify work/test requirements for engine/plant and ancillary equipment |
| | | 4.2 | Test engine/plant and ancillary equipment for correct operation using instruments appropriate to the testing task |
| | | 4.3 | Assess and verify operational function |
| 5 | Collect data and localise fault conditions | 5.1 | Use drawings/diagrams and operational specifications to identify and localise fault conditions |
| | | 5.2 | Examine built-in fault indicators and error codes, and interpret and record results |
| | | 5.3 | Localise fault condition to major component level |
| 6 | Analyse and report test results | 6.1 | Analyse/verify test results against operational specifications and confirm localised faults |
| | | 6.2 | Report potential and actual faults according to SOPs |
| | | 6.3 | Plan corrective action and record/document action plan |

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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

Range of Conditions

This field allows for 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.

Marine systems include the following:

- engines
- stabilisers
- steering systems
- fuel systems

Stabilisers are fin and/or tab types and include one (1) or more of the following:

- electric
- hydraulic
- mechanical

Steering system units include one (1) or more of the following:

- hydraulic
- cable
- wire-operated

Fuel systems include one (1) or more of the following:

- petrol
- diesel supply operations

Instruments include one (1) or more of the following:

- mechanical
- pneumatic/electro-pneumatic
- electronic (analog/digital)
- associated instruments that measure variables, including:
 - temperature
 - pressure
 - flow rate
 - levels
 - lights
 - density
 - any other operational variable

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

