



Australian Government

MEM12006 Mark off/out (general engineering)

Release: 2

MEM12006 Mark off/out (general engineering)

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM12006 Mark off/out (general engineering) (Release 1).

Release 1. Supersedes and is equivalent to MEM12006C Mark off/out (general engineering).

Application

This unit of competency has been developed for engineering tradesperson - mechanical apprenticeship training and the recognition of trade-level skills in marking off/out in general engineering.

Marking off/out is undertaken using appropriate tools and equipment and templates are produced as required. Marking off/out techniques may apply to a range of materials and shapes.

Skills covered by this unit are generally applied in occupational and work situations associated with trade-level fitting, machining and toolmaking work.

Where the task involves a simple transfer of a dimension or marking a location point associated with general engineering and maintenance functions, select one or more of the following units as appropriate:

- MEM07005 Perform general machining
- MEM18006 Perform precision fitting of engineering components
- MEM18014 Manufacture press tools and gauges.

Where the manufacture of marked out components is required, appropriate units should also be selected.

Where a higher level of calculation is required unit MEM12026 Perform advanced trade calculations in a manufacturing, engineering or related environment should also be selected.

Where a higher level of measurement is required unit MEM12003 Perform precision mechanical measurement should also be selected.

Where a higher level of precision work is required unit MEM18003 Use tools for precision work should also be selected.

Where marking out structural fabrications and shapes is required unit MEM12007 Mark off/out structural fabrications and shapes should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

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

Band: A

Unit Weight: 4**Pre-requisite Unit**

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information

Competency Field

Measurement

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
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, drawings, job sheets or work instructions
		1.5	Select appropriate methods and sequencing consistent with job requirements
2	Transfer dimension	2.1	Carry out all marking off/out to specifications using appropriate tools and equipment

Elements describe the essential outcomes.

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

2.2 Establish datum points

2.3 Transfer dimensions and undertake appropriate calculations, as required

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.

Tools and equipment include one (1) or more of the following:

- marking out tables
- surface tables
- rotary tables
- dividing heads
- vee blocks
- cylinder squares
- sine bars
- vernier height gauges
- protractors
- straight edge and set squares
- hammers
- scribes
- centre punch
- marking medium

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM12006 Mark off/out (general engineering) (Release 1).

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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>

Assessment Requirements for MEM12006 Mark off/out (general engineering)

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications and drawings for marking out requirements, including measurements and tolerances
- carrying out all marking off/out using tools and equipment to specifications
- calculating measurements not shown on drawings, as required
- establishing and marking datum points
- transferring measurements, as required.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- drawings, job instructions and specifications
- procedures for marking off/out
- tools, equipment and techniques related to the task
- purpose of establishing datum points
- method of determining/calculating dimensions.

Assessment Conditions

- Assessors must:
 - have vocational competency in marking off/out (general engineering) at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.

- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- 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.

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