



Australian Government

MEM07016 Set and edit computer controlled machines and processes

Release: 2

MEM07016 Set and edit computer controlled machines and processes

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM07016 Set and edit computer controlled machines and processes (Release 1).

Release 1. Supersedes and is equivalent to MEM07016C Set and edit computer controlled machines and processes.

Application

This unit of competency defines the skills and knowledge required to set and edit computer controlled machines and processes.

Work is performed to established processes, practices and specifications and machine operations, including welding, metal cutting, forming and shaping.

Technical difficulties are resolved in consultation with appropriate technical advisers.

Where setting and editing of computer controlled thermal cutting machines is required unit MEM05053 Set and edit computer controlled thermal cutting machines should also be selected.

Where additional machining skills in excess of unit MEM07005 Perform general machining are required then appropriate units should also be selected.

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

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

Band: This unit has dual status and is to be regarded as both a Specialisation Band A unit and Specialisation Band B unit for progression to C7 (AQF level IV).

Unit Weight: 4

Pre-requisite Unit

MEM07015	Set computer controlled machines and processes
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
MEM18001	Use hand tools

Plus, one or more of the following, including their prerequisites:

MEM07005	Perform general machining
MEM07028	Operate computer controlled machines and processes

Competency Field

Machine and process operations

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
2	Set work holding fixtures/devices/tools	2.1	Select correct ancillary devices and attach to machine
		2.2	Prepare machine to accept work holding devices
		2.3	Set work holding fixtures/devices/tools to zero or a datum using appropriate setting devices
		2.4	Measure tooling offsets and record in machine controller

Elements describe the essential outcomes.

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

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| 3 | Trial program | 3.1 | Operate machine to produce first-off samples, observing all safety procedures |
| | | 3.2 | Check first-off samples for compliance with specifications |
| | | 3.3 | Undertake program editing to change speeds, feed and operational sequence requirements to ensure job conforms to specification |
| | | 3.4 | Replace tools, adjust tool offsets or take other corrective action using SOPs, where appropriate |
| | | 3.5 | Instruct operator, if necessary, ensuring that all safety procedures and devices are in place |

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, accessibility of the item, and local industry and regional contexts) are included.

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

- numerically controlled (NC) machines
- computer numerically controlled (CNC) machines
- industrial robots

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM07016 Set and edit computer controlled machines and processes (Release 1).

Release 1. Supersedes and is equivalent to MEM07016C Set and edit computer controlled machines and processes.

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 MEM07016 Set and edit computer controlled machines and processes

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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, charts, lists, drawings and other applicable reference documents for computer controlled machine setting and editing
- attaching ancillary devices in accordance with procedures
- selecting appropriate tool and work piece holding fittings and fixtures
- measuring, entering and verifying tool offsets
- undertaking numerical operations and calculations in setting and editing machines and processes
- conducting pre-start checks
- producing and checking first-off samples for conformance with specifications
- editing programs to ensure compliance with specifications
- identifying worn or damaged tooling and taking appropriate corrective action
- instructing machine operator on the sequence of operations.

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)
- ancillary equipment and their applications
- procedures for attaching the ancillary devices to the numerically controlled (CN) and computer numerically controlled (CNC) machines
- work holding devices, their application and procedures for mounting them
- location of work holding fixtures/devices/tools relative to the machine zero or datum
- reasons for establishing tool offsets
- procedures and devices for measuring tool offsets
- procedures for entering, verifying and adjusting tool offset

- operating procedures
- safety features and equipment
- measuring devices/ techniques for checking the parts or product
- effects of changes to cutting feeds and speeds and the impact of changes to the sequence of operations on the part or product to be produced
- procedures for editing programs via the machine controller
- the sequence of operations of the machine/process
- examples of, effects and corrective action to be taken for worn or damaged tooling.

Assessment Conditions

- Assessors must:
 - have vocational competency in setting and editing computer controlled machines and processes 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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