



Australian Government

Department of Education, Employment and Workplace Relations

MEM07015B Set computer controlled machines/processes

Release: 1

MEM07015B Set computer controlled machines/processes

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers mounting work holding fixtures/devices/tools, conducting pre-start checks, setting numerical and computer controlled machines, instructing the operator and replacing worn or damaged tooling.
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Application of the Unit

Application of the unit	<p>The unit applies to the setting of any computer controlled machines/processes. Applications may include NC/CNC machines and industrial robots.</p> <p>Work is performed to established processes, practices, specifications and instructions as appropriate. Technical difficulties are resolved in consultation with appropriate technical advisers.</p> <p>For setting non-computer controlled machines or processes, refer to Unit MEM07003B (Perform machine setting [routine]).</p> <p>Band: A</p> <p>Unit Weight: 2</p>
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM07024B	Operate and monitor machine/process
	MEM07028B	Operate computer controlled machine/processes
	MEM09002B	Interpret technical drawing
	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools
	MEM07024B	Operate and monitor machine/process
Path 2	MEM07005C	Perform general machining
	MEM09002B	Interpret technical drawing
	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Obtain job instructions	1.1. Job sheets or equivalent instructions are understood and correctly followed.
2. Mount work holding fixtures/devices/tools	2.1. Machine is prepared to accept work holding fixtures/devices/tools. 2.2. Preset tooling is mounted as required into machine/equipment. 2.3. Work holding fixtures/devices are set on machine as required using standard operating procedures. 2.4. Tool offset or datum settings are identified/verified against job sheet using standard operating procedures. 2.5. Program is loaded, selected and verified in accordance with job instructions.
3. Conduct pre-start checks	3.1. Pre-start checks are undertaken to standard operating procedures. 3.2. Correct safety procedures are observed and all safety equipment is checked for correct operation.
4. Set machine	4.1. Machine is set/adjusted to meet operational requirements and specifications. 4.2. Production samples are checked for compliance with specifications using standard operating procedures.
5. Instruct machine operator	5.1. Operator is instructed, if necessary, ensuring that all safety procedures and devices are in place.
6. Replace worn/damaged tooling	6.1. Where appropriate, preset tools are replaced, tool offsets are adjusted or other corrective action is taken using standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

REQUIRED SKILLS AND KNOWLEDGE

- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents
- planning and sequencing operations
- checking and clarifying task related information
- mounting work holding fixtures/devices/tooling
- mounting preset tooling
- verifying tool offsets and/or datum settings against job sheets or instructions
- loading and verifying programs
- conducting pre-start checks
- following safety procedures
- checking safety features and safety equipment for correct operation
- performing numerical operations and calculations/formulae within the scope of this unit
- setting and adjusting machines
- measuring and verifying first-off samples
- instructing machine operators on the sequence of operations
- identifying worn or damaged tooling and taking appropriate corrective action

Required knowledge

Look for evidence that confirms knowledge of:

- work holding fixtures/devices/tools and preset tooling for different machines/processes
- procedures for mounting work holding fixtures/devices/tools
- location of work holding fixtures/devices/tools relative to the machine datum or zero
- reasons for establishing tool offsets
- the purpose of datum settings
- the source(s) of information on tool offsets and datum settings
- procedures to locate and load programs
- procedures for verifying loaded programs
- pre-start checks
- safety features of the machine/process
- the purpose and function of safety features and/or safety equipment
- machine/process setting procedures
- machine operating procedures
- adjustments that can be made to the machine/process
- the effect of adjustments on machine and operational specifications
- product or part specifications in relation to the machining process
- measuring devices for checking parts or products
- examples of worn or damaged tooling

REQUIRED SKILLS AND KNOWLEDGE

- the effects of worn or damaged tooling
- the corrective action for worn or damaged tooling
- hazards and control measures associated with numerical and computer controlled machines, including housekeeping
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to set computer controlled machines/processes. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with setting computer controlled machines/processes or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

EVIDENCE GUIDE**Guidance information for
assessment****Range Statement****RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Machine and process operations
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