MEM09009 Create 2-D drawings using computer-aided design system

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM09009C Create 2D drawings using computer aided design system

Application

This unit of competency defines the skills and knowledge required to produce 2-D drawings using a computer-aided design (CAD) system. Skills include producing linked bills of material, file management and associated customisation of installed software, including the use of macros, menus and default settings. 2-D drawings can be produced from 3-D models created using CAD system.

The unit primarily applies to the fields of mechanical, electrical or electronic, fabrication and fluid power.

This unit covers CAD skills only. Where detail drafting skills are required see the following units:

- MEM09004 Perform electrical or electronic detail drafting
- MEM09005 Perform basic engineering detail drafting
- MEM09006 Perform advanced engineering detail drafting

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

Band: **B**

Unit Weight: **8**

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM16008	Interact with computing technology

Competency Field

Drawing, drafting and design

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	Identify job requirements from specifications, job sheets or associated work instructions
2	**Prepare CAD environment**	2.1	Customise system variables, menus and drawing defaults to suit standard operating procedures
		2.2	Develop macros to specifications
3	**Create 2-D drawings**	3.1	Create drawings using the available software system
		3.2	Link drawing entities to database attributes to suit job requirements
		3.3	Create detailed views using various scales to meet job requirements
4	**Produce output**	4.1	Save files in various formats according to procedures
		4.2	List linked entities in a bill of materials format to meet job requirements
		4.3	Extract supplementary data from drawing to meet job requirements, as necessary

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.

Drawing includes one (1) or more of the following:	- plans - diagrams - charts - electrical or electronic circuits
File formats include one (1) or more of the following:	- IGES - DXF - HPGL
Entities mean any single item created on the screen and include one (1) or more of the following:	- lines - arcs - circles - text - hatch - dimensions
Attributes include mean properties associated with an entity and include one (1) or more of the following:	- layer - level - line type - line width - colour - text type
Supplementary data includes one (1) or more of the following:	- area - lengths - angles - perimeters

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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