



Australian Government

AUMAKM002 Produce computer-aided drawings

Release: 1

AUMAKM002 Produce computer-aided drawings

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMAKM5002 Produce computer-aided drawings

Application

This unit describes the performance outcomes required to produce drawings using computer-aided drafting (CAD) equipment and techniques, required in the design, development and production of vehicles and components.

It applies to those in an automotive manufacturing environment.

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

Competency Field

Manufacturing - Common

Unit Sector

Information Technology - Manufacture

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section
1. Prepare for the job	1.1 CAD project objectives and job order are identified and confirmed according to workplace procedures 1.2 CAD requirements and processes are determined based on consideration of project and identified parameters 1.3 Required computer software is selected and installed if required according to workplace procedures 1.4 Files of digitised information relevant to the project are retrieved and converted if required

Elements	Performance Criteria
2. Gather measurements	2.1 Measurements of components, sub-assemblies and products are identified and recorded 2.2 Calculations of required dimensions and other drafting details based on measurements are made 2.3 Critical information relevant to the CAD project is identified
3. Prepare drawings	3.1 Critical dimensions and data for the required drawings are established 3.2 Preliminary sketches are prepared and reviewed with appropriate personnel 3.3 CAD package is accessed using the necessary commands according to project objectives, operating instructions and workplace procedures 3.4 2D and 3D computer graphics systems are used to meet project objectives and specifications
4. Check and save drawing files	4.1 Drawings are checked against project objectives and specifications 4.2 CAD data files are stored according to workplace procedures and archiving requirements
5. Plot drawings	5.1 Computer hardware is activated to scan, print or plot as required 5.2 Retrieved information is plotted according to software instructions and task requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Learning skills to:	learn new design and re-design approaches integral to the process.
Reading skills to:	- extract key information from software and hardware operating instructions - interpret work orders and instructions.
Writing skills to:	complete CAD information.
Oral communication skills to:	actively participate in team decision-making meetings.

Skills	Description
Numeracy skills to:	• identify and interpret mathematical information in job orders • identify and record measurements • prepare and review sketches • perform calculations • use 2D and 3D shape tolerances.
Digital literacy skills to:	• operate computer systems and CAD software to design and draw items.
Planning and organising skills to:	• prepare drawing equipment and specifications • manage time when planning and preparing CAD drawings • organise CAD drawing priorities.
Problem-solving skills to:	• identify drawing non-conformance.

Range of Conditions

This section specifies 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. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Critical information</i> must include:	• drafting standards • measurements of components and sub-assemblies • system accuracy • workplace-accepted tolerances.
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Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

Assessment Requirements for AUMAKM002 Produce computer-aided drawings

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Performance Evidence

Before competency can be determined, individuals must have competently produced computer-aided drafting (CAD) drawings on a minimum of three occasions.

Individuals must demonstrate they can:

- communicate clearly and directly in order to review preliminary sketches with appropriate personnel
- gather object parameters and measurements in a team environment
- solve problems, particularly in teams, in order to meet performance indicators
- apply workplace procedures and instructions
- produce CAD drawings of vehicle or components
- manage time when planning and preparing CAD drawings
- organise work priorities relating to CAD drawing requirements.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace procedures relating to using CAD
- CAD techniques
- CAD drawing standards
- job specifications and work plans relating to CAD drawing requirements
- processes to set up required CAD packages
- processes to gather object parameters and measurements for CAD drawings
- processes to prepare CAD drawings
- processes to plot CAD drawings.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the CAD drawings they have worked on.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive manufacturing workplace or simulated workplace
- workplace procedures relating to CAD
- CAD system and program
- CAD software instructions
- job specifications relating to CAD.

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