



Australian Government

MEM12021 Program coordinate measuring machines

Release: 1

MEM12021 Program coordinate measuring machines

Modification History

Release 1. Supersedes and is equivalent to MEM12021B Program coordinate measuring machines

Application

This unit of competency defines the skills and knowledge required to write, trial and edit basic programs for a range of coordinate measuring machines (CMMs) to measure features of a part in a single work plane using a single probe.

Appropriate levels of measuring, computer and engineering drawing skills should be selected with this unit.

Where programming using multiple probes and more than one plane is required unit MEM12022 Program coordinate measuring machines (advanced) should also be selected.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

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| MEM09002 | Interpret technical drawing |
| MEM12003 | Perform precision mechanical measurement |
| MEM12023 | Perform engineering measurements |
| MEM13015 | Work safely and effectively in manufacturing and engineering |
| 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.

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|--|--|
| 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 Identify part program parameters | 2.1 Select appropriate units to comply with specifications 2.2 Specify part program name according to SOPs |
| 3 Establish single probe configurations | 3.1 Determine single probe configuration 3.2 Determine probe angles and qualify in accordance with SOPs |
| 4 Position/align component | 4.1 Position and orient component/part to specifications 4.2 Create manual alignment according to SOPs 4.3 Create single direct computer control (DCC) alignment according to SOPs |
| 5 Measure features | 5.1 Measure features and define probe movement parameters according to SOPs 5.2 Dimension basic features according to specifications 5.3 Report operator notes 5.4 Insert dimension descriptions |
| 6 Verify and back | 6.1 Verify execution and accuracy of program according to |

Elements describe the essential outcomes.

up the program

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

SOPs

- 6.2 Edit program, if required
- 6.3 Output results to various formats according SOPs
- 6.4 Archive and back up program

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

No range of conditions provided for this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM12021B Program coordinate measuring machines

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>