



Australian Government

Assessment Requirements for MEM12021 Program coordinate measuring machines

Release: 1

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Modification History

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

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 occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- selecting appropriate units and identifying part program in accordance with current identification and/or quality system to comply with specifications
- determining single probe configuration and calculating/determining and qualifying probe angles in accordance with SOPs
- undertaking numerical operations, geometry and calculations/formula applicable to programming coordinate measuring machine (CMM)
- positioning/aligning/securing component/part to appropriate orientation on CMM table and complying with probe configuration and calibrated angles
- taking an appropriate number of hits to create an accurate manual alignment
- demonstrating the correct procedure for creating direct computer control (DCC) alignment
- measuring features in correct sequence and location in a single work plane
- dimensioning basic features, including circles and points
- verifying execution and accuracy of program and editing according to SOPs, as required
- outputting results to various formats, including printer, disc or other format and backing up and archiving program, as required.

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)
- principles and methods of coordinate measurement
- principles and interpretation of geometric tolerancing
- procedure for producing the part program
- procedures and parameters for naming programs
- procedures and reasons for determining single probe configuration
- procedures for determining/calculating probe angles
- procedures and parameters for qualification
- specifications for the program

- criteria for selecting specific units
- reasons for the specific location and aligning/securing the component/part
- method of securing/clamping
- methodology used to create manual alignment for the part
- procedures for creating a single DCC alignment and reasons for selection
- criteria for defining probe movement
- procedures for verifying correct probe movement
- dimensioning techniques
- procedures for running the program and verifying the results
- editing process and explanations
- method used to archive and back up the program
- access limitations by personnel and quality control guidelines
- procedures for outputting results to various formats.

Assessment Conditions

- Assessors must:
 - have vocational competency in programming coordinate measuring machines 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
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, 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.

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>