



Australian Government

Assessment Requirements for MEM05087 Write basic NC/CNC programs for thermal cutting machines

Release: 1

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Modification History

Release 1. Unit code changed. Changes to elements and performance criteria and performance evidence. Supersedes and is not equivalent to MEM05054 Write basic NC/CNC programs for thermal cutting 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 and include the ability to:

- follow work instructions, standard operating procedures (SOPs) and safe work practices
- identify and interpret job specifications, engineering drawings, and other applicable work instructions for information relevant to writing basic numerical control (NC) and/or computer numerical control (CNC) programs for thermal cutting machines
- interpret basic NC/CNC thermal cutting machines controller elements which do not require programming using canned cycles and sub-routines
- write a basic program in standard code format by interpreting drawings to define basic machine function and cutting path geometry and calculating co-ordinates for cutting path and producing operation sheets to specifications on at least two occasions
- trial and edit basic programs by operating machine in manual mode to test and prove program and adjusting operation as required on at least two occasions
- check components for compliance against specifications.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

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)
- elements of a basic NC/CNC program
- function of elements in controlling the operation of an NC/CNC machine
- types of NC/CNC thermal cutting and welding machines and their applications
- thermal cutting operations controlled by a program
- cutting paths to be followed when cutting a part or product and the reasons for selecting cutting paths and sequence of operations
- zero point of the NC/CNC machine
- standard codes, applications and procedures used in the writing of NC/CNC programs
- procedures and information to be included for completing NC/CNC operation sheets

- procedures for manual operation of the NC/CNC machine and reasons for testing and proving the NC/CNC program
- procedures for editing the NC/CNC program via the machine controller
- effects of editing on the operation of the NC/CNC machine and the part or product to be cut
- measuring equipment and techniques used to check for conformance to specification.
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Assessment Conditions

- Assessors must:
 - have vocational competency in writing basic NC/CNC programs for thermal cutting 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.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Knowledge assessment may be either verbal or written but must adequately reflect the knowledge requirements of the unit in a functioning workplace.
- 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.
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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>