



Australian Government

MEM07012 Perform complex grinding operations

Release: 2

MEM07012 Perform complex grinding operations

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM07012 Perform complex grinding operations (Release 1).

Release 1. Supersedes and is equivalent to MEM07012B Perform complex grinding operations.

Application

This unit of competency defines the skills and knowledge required to perform complex and high precision grinding operations.

Grinding operations are performed on a variety of materials to achieve high levels of precision for dimensions and finish.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM07005	Perform general machining
MEM07008	Perform grinding operations
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12003	Perform precision mechanical measurement
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools

Competency Field

Machine and process operations

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 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, drawings, job sheets or work instructions |
| | | | |
| 2 | Set up work | 2.1 | Select grinding wheels based on shape and grit/bond composition and dress to form and size, as required |
| | | 2.2 | Set up work to required level of accuracy according to specifications |
| | | | |
| 3 | Perform complex grinding | 3.1 | Perform specialised grinding operations on components |
| | | 3.2 | Check components for compliance with specifications |
| | | 3.3 | Rectify non-compliant product in accordance with SOPs |

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, accessibility of the item, and local industry and regional contexts) are included.

- Complex and high precision grinding operations include one (1) or more of the following:**
- jig grinding
 - grinding eccentrics
 - thread grinding
 - gauges
 - shapes and forms

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM07012 Perform complex grinding operations (Release 1).

Release 1. Supersedes and is equivalent to MEM07012B Perform complex grinding operations.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEM07012 Perform complex grinding operations

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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 (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, charts, lists, drawings and other applicable reference documents to carry out complex grinding operations
- dressing grinding wheel to form and size
- setting up work pieces for the operations and selecting suitable tools and accessories
- undertaking numerical operations, geometry and calculations for specialised complex grinding operations
- carrying out a range of complex grinding operations
- checking components for conformance to specifications using precision measuring instruments
- rectifying non-compliant product.

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)
- reasons for selecting the chosen sequence of complex grinding operations
- function and application of work holding devices/accessories appropriate to complex grinding
- appropriate techniques, tools and equipment to measure machined components
- tools, techniques and equipment for checking components for conformance to specifications and rectifying non-compliant components.

Assessment Conditions

- Assessors must:

- have vocational competency in performing complex grinding operations 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.
- 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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