



Australian Government

MEM18001 Use hand tools

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Modification History

Release	Comments
1	This unit of competency was first released in MEM Manufacturing and Engineering Release 2.0.

Application

This unit of competency defines the skills and knowledge required to use a range of hand tools for a variety of general engineering applications.

This unit should not be selected if the hand tool is dedicated to a single operation or machine or when a machine-specific/customised tool is used.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measuring equipment is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of power tools/hand held operations is required unit MEM18002 Use power tools/hand held operations should also be selected.

Band: A

Unit Weight: 2

Licensing/Regulatory Information

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

Pre-requisite unit(s)

MEM11011 Undertake manual handling

MEM13015 Work safely and effectively in manufacturing and engineering

MEM16006 Organise and communicate information

Competency field(s)

Maintenance and diagnostics

Unit sector(s)

N/A

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	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
1	Use hand tools for general engineering applications	2 . 1	Select hand tools appropriate to the task requirements
		2 . 2	Use hand tools to produce outcomes that meet job specifications
		2 . 3	Identify unsafe or faulty tools and mark for repair according to designated procedures before, during and after use
		2 . 4	Undertake routine maintenance of tools using engineering principles, tools, equipment and procedures
		2 . 5	Store hand tools safely in appropriate location according to procedures and manufacturers' recommendations

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

Hand tools include one (1) or more of the following:	• hacksaws • hammers • punches • screwdrivers • sockets • wrenches • scrapers • chisels • gouges • wood planes • files of all cross-sectional shapes and types • hand held taps and dies
Applications include one (1) or more of the following:	• adjusting • dismantling • assembling and finishing of items or components • finishing, cutting, scraping of metallic and non-metallic material to size and shape • tapping/retapping and threading/rethreading new/damaged threads
Drawings include one (1) or more of the following:	• drawings and sketches not covered by AS 1100 Technical drawing or AS 1102 Graphical symbols for electrotechnical documentation, and their equivalents • work specifications that include graphic representations that do not require interpretation
Job specifications include one (1) or more of the following:	• finish • tension

	• size • shape
Routine maintenance includes one (1) or more of the following:	• cleaning • lubricating • tightening • simple tool repairs • adjustments

Unit Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
MEM18001 Use hand tools	MEM18001C Use hand tools	Supersedes and is equivalent to MEM18001C Use hand tools	Equivalent

Assessment Requirements for MEM18001 Use hand tools

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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
- selecting and using hand tools to produce the desired outcome to job specifications
- following designated procedures for dealing with unsafe or faulty tools
- undertaking routine maintenance and cleaning of hand tools, including storage.

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)
- features and applications of different hand tools used in a general engineering context, including hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes and files of all cross-sectional shapes and sizes
- common faults and/or defects in hand tools
- procedures for marking unsafe or faulty tools for repair
- routine maintenance requirements for a range of hand tools, including lubricating, tightening, simple tool repairs and adjustments using engineering principles and relevant equipment
- storage location and procedures for a range of hand tools.

Assessment Conditions

- Assessors must:
 - have vocational competency in using hand tools 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.

Link

Companion volumes, including implementation guides, are found on the national training register - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=45a7f1d5-61a5-447a-9688-7abbd7e1a5c7>.