



Australian Government

MEM03002 Perform precision assembly

Release: 1

MEM03002 Perform precision assembly

Modification History

Release 1. Supersedes and is equivalent to MEM03002B Perform precision assembly

Application

This unit of competency defines the skills and knowledge required to assemble and test complex engineering components and mechanical assemblies in a production manufacturing environment.

Assembly activities typically involve build-to-order work and/or low volume and/or complex assemblies and/or long assembly timeframes.

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

Where the selection and use of manual handling is required unit MEM11011 Undertake manual handling should also be selected.

Where the selection and use of engineering measuring equipment is required unit MEM12023 Perform engineering measurements 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

MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools

Competency Field

Assembly

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, sketches, job sheets or work instructions
2	Plan precision assembly	2.1	Check all components/sub-assemblies against job sheet, assembly list or equivalent instructions
		2.2	Carry out fitting requirements and sequential assembly planning where applicable
		2.3	Select tools, equipment and components/sub-assemblies to meet job requirements
3	Assemble engineering components	3.1	Identify any defective or faulty components/sub-assemblies and take action according to SOPs
		3.2	Prepare functional components/sub-assemblies for assembly
		3.3	Apply assembly techniques and principles appropriate to the job requirements
		3.4	Fit components of assembly to ensure correct positioning and conformance with specifications
		3.5	Test assembly to ensure that components interface/interact according to operational specifications
4	Adjust mechanical assemblies	4.1	Perform final adjustments on assembly to ensure it meets operational specifications using predetermined standards of quality and safety

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|---|--|-----|---|
| | | 4.2 | Identify any faulty assemblies for rework by operator or, where the fault is outside the scope of the workstation, take appropriate action for fault correction by others |
| | | 4.3 | Mark the completed assembly following SOPs |
| 5 | Protect assembly from damage and complete documentation | 5.1 | Handle and store components and/or assemblies according to procedures and in a manner least likely to cause damage |
| | | 5.2 | Record information on assembly data production schedules, job sheets, checklists and other standard forms and templates |

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.

**Components/
sub-assemblies include:**

- parts that make up the sub-assembly and components

**Records/inputs includes
one (1) or more of the
following:**

- production schedules
- job sheets
- checklists
- standard forms and templates

**Adjustments include one
(1) or more of the**

- clearances
- mesh
- tension

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.

following:

- level
- alignment

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM03002B Perform precision assembly

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 MEM03002 Perform precision assembly

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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
- preparing a sequential assembly plan of components and sub-assemblies, including the selection of appropriate tools to meet job requirements
- using appropriate handling procedures to minimise damage to components and/or assemblies
- fitting, assembling and testing engineering components or mechanical assemblies to operational specifications
- identifying any faulty components or assembly and taking action according to SOPs
- storing components and assemblies following SOPs
- completing production records 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)
- precision assembly techniques and fitting requirements
- characteristics, use and storage requirements of relevant tools and equipment used in precision assembly of components
- sources of the component/sub-assemblies
- correct sequence in which precision assembly is performed
- procedures for testing and checking assembled components
- identification of non-conformance in precision assemblies and procedures for correction
- relevant assembly production record keeping requirements.

Assessment Conditions

- Assessors must:
 - have vocational competency in precision assembly 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.

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