



Australian Government

MEM05089 Assemble fabricated components

Release: 1

MEM05089 Assemble fabricated components

Modification History

Release 1. Supersedes and is equivalent to MEM05011 Assemble fabricated components.

Application

This unit of competency has been developed for Engineering Tradesperson – Fabrication apprenticeship training and recognition of trade-level skills in the assembly of general fabricated components in plate, pipe and section or sheet in typical applications either on-site or in a fabrication workplace.

Skills covered by this unit are generally applied in occupational and work situations associated with steel fabrication, boilermaking or sheet metal work.

Work may be undertaken individually or as part of a team.

Where assembly involves using pre-constructed jigs unit MEM03001 Perform manual production assembly and unit MEM03003 Perform sheet and plate assembly, should also be selected as appropriate.

Where skills for the assembly of fabricated engineering components are required unit MEM18006 Perform precision fitting of engineering components should also be selected.

Where welds are required to meet legislative or regulatory requirements, then appropriate welding units should also be selected.

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

Band: A

Unit Weight: 8

Pre-requisite Unit

MEM05005	Carry out mechanical cutting
MEM05007	Perform manual heating and thermal cutting
MEM05052	Apply safe welding practices
MEM05085	Select welding processes
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
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

MEM18002 Use power tools/hand held operations

Plus, one or more of the following, including their prerequisites:

MEM05090 Weld using manual metal arc welding process

MEM05091 Weld using gas metal arc welding process

MEM05092 Weld using gas tungsten arc welding process

MEM05097 Weld using oxy fuel gas welding process

Competency Field

Fabrication

Elements and Performance Criteria

Elements	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. Identify assembly and distortion control methods	2.1 Identify appropriate assembly and distortion control methods 2.2 Construct jigs from engineering drawings or according to workshop practice, where required
3. Ensure all components, tools and fixtures for fabrication assembly are available	3.1 Select most appropriate equipment for assembly tasks 3.2 Check and assemble all components against drawings and material list
4. Assemble fabricated components	4.1 Position material and/or fabricated components and adjust structural alignment and levelling 4.2 Determine datum line where necessary

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	4.3 Apply appropriate distortion prevention/control techniques 4.4 Check assembled components for position including squareness, level and alignment to specification 4.5 Apply fixing/joining techniques according to SOPs 4.6 Check final assembly for compliance with specifications

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.

Distortion prevention/control techniques includes one or more of the following:	• jigs • fixtures • heat • clamps.
Typical applications include one or more of the following:	• transitions • pipe works • structural fabrication • ductwork • general jobbing work • fired and unfired pressure vessels.
Components include one or more of the following:	• general fabricated components in either: • plate • pipe and section • sheet.

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Structural alignment and levelling include one or more of the following:

- using planes and line straight edges
- spirit levels
- line levels
- squares.

Fixing/joining techniques include one or more of the following:

- welding
- adhesives
- fasteners
- rivets.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM05011 Assemble fabricated components.

Links

Companion Volume implementation guides are found in VETNet -

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