



Australian Government

MEM18055 Dismantle, replace and assemble engineering components

Release: 1

MEM18055 Dismantle, replace and assemble engineering components

Modification History

Release 1. Supersedes and is equivalent to MEM18055B Dismantle, replace and assemble engineering components

Application

This unit of competency defines the skills and knowledge required to dismantle, identify faulty components, select replacements and assemble engineering components into assemblies or sub-assemblies in accordance with standard operating procedures (SOPs).

It also applies to the straightforward removal and replacement of pre-manufactured bearings and seals.

Where precision mechanical measurement is required unit MEM12003 Perform precision mechanical measurement should also be selected.

Where fitting techniques and principles are required to assess component condition, and/or modify components to achieve precision fits unit MEM18006 Perform precision fitting of engineering components should also be selected.

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

Band: A

Unit Weight: 3

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations

Competency Field

Maintenance and diagnostics

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	Dismantle engineering components	2.1	Inspect engineering components and analyse task requirements
		2.2	Dismantle components using appropriate tools and techniques
		2.3	Mark components for identification, where required
3	Identify faulty components and select replacement parts	3.1	Obtain and interpret specifications for components from appropriate source
		3.2	Identify out-of-specification, damaged or faulty components
		3.3	Identify faulty components for repair, replacement or adjustment
		3.4	Select replacement and/or repaired parts for reassembly
4	Assemble engineering components into assemblies or	4.1	Prepare, assemble and adjust components using fastening equipment and methods using appropriate tools, equipment and techniques which ensures compliance to specifications

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

sub-assemblies

- | | |
|-----|---|
| 4.2 | Select and apply lubrication, packing and sealing materials |
| 4.3 | Inspect, test and adjust final component assembly, as necessary, for compliance with operational specifications and return to use according to 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, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Engineering components include one (1) or more of the following:

- couplings
- universal joints
- pumps employing shafts
- pre-manufactured bearings and seals
- lubricants
- fasteners
- gaskets

Appropriate tools and equipment include one (1) or more of the following:

- a range of hand and power tools
- bearing pullers
- special purpose dismantling and assembly tools

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18055B Dismantle, replace and assemble engineering components

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 MEM18055 Dismantle, replace and assemble engineering components

Modification History

Release 1. Supersedes and is equivalent to MEM18055B Dismantle, replace and assemble engineering components

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 dismantle, replace and assemble engineering components
- dismantling components using appropriate techniques, tools and equipment and marking component parts for reassembly purposes
- checking component parts visually and dimensionally for compliance to specification and marking faulty parts for repair, replacement or adjustment
- selecting replacement parts using manufacturers' catalogues and data
- assembling components using appropriate techniques and principles
- inspecting final assembly for compliance to specifications
- returning the final assembly to service in accordance with SOPs.

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)
- tasks to be performed in accordance with SOPs
- tools and equipment associated with dismantling the components
- procedures for:
 - checking components for conformance to specification and equipment required
 - assembling components and requirements of the assembly in terms of specifications, operational performance, quality and safety
 - lubricating the assembly
 - returning components/assemblies into use and checks to be undertaken during inspection of the final assembly
- specifications of the components to be replaced, including features and/or dimensions
- process of identifying replacement parts from catalogues
- packing and sealing materials.

Assessment Conditions

- Assessors must:
 - have vocational competency in dismantling, replacing and assembling engineering components 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.

Links

Companion Volume implementation guides are found in VETNet -

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