



Australian Government

MEM06006 Repair springs

Release: 1

MEM06006 Repair springs

Modification History

Release 1. Supersedes and is equivalent to MEM06006C Repair springs

Application

This unit of competency defines the skills and knowledge required to assess spring condition, set and reset springs for repair, set up and operate spring forming equipment, form and shape material and test components.

Equipment use does not include automated spring making equipment.

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

Where the selection and use of engineering measurement 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.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM06001	Perform hand forging
MEM06003	Carry out heat treatment
MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools

Competency Field

Forging

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	Assess spring condition	2.1	Check springs for correct operation and identify defects in accordance with SOPs
		2.2	Identify springs suitable for rework and the appropriate repair procedure
3	Set and reset springs for repair	3.1	Apply correct stripping procedure
		3.2	Allow for setting tolerances in set/reset of springs to specification
		3.3	Control correct temperature for setting/resetting springs
4	Set up and operate spring forming equipment	4.1	Set up and use equipment in accordance with procedures
		4.2	Position spring material and safety guards
		4.3	Select forming equipment and tools for given application
5	Form and shape material	5.1	Determine material lengths
		5.2	Taper, roll and bend material to conform to specifications
		5.3	Adopt correct procedure for hot and cold forming
		5.4	Make allowance for relief and spring-back

Elements describe the essential outcomes.

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

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|---|------------------------|-----|--|
| 6 | Test components | 6.1 | Determine spring compression from specifications |
| | | 6.2 | Determine any defects and confirm dimensional accuracy |
| | | 6.3 | Re-set non-conforming springs and adjust spring forming equipment as necessary |
| | | 6.4 | Nest springs to specification |

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.

Springs include one (1) or more of the following:

- laminated
- compression/coil
- plate

Equipment includes one (1) or more of the following:

- tapering
- coiling
- stripping and buckling
- spring testing machines

Material includes one (1) or more of the following:

- spring
- specialised steel

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM06006C Repair springs

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 MEM06006 Repair springs

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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 (2) two occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- assessing spring condition and selecting suitable set and reset repair methods
- setting up and operating spring forming equipment and tools to form and shape spring material
- testing spring components and adjusting, as necessary, to meet specifications.

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)
- procedures to test springs for correct operation/malfunction
- causes of deviations from specifications and/or defects in springs
- effects of annealing, hardening, tempering, soaking and setting on spring operation
- repair and rework procedures for a range of spring defects
- procedures for tapering, rolling and bending materials
- features and application of hot and cold forming processes
- allowances to be made for relief and spring-back
- procedures for recording spring test results
- procedures for nesting springs.

Assessment Conditions

- Assessors must:
 - have vocational competency in repairing springs 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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