



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEM06006C Repair springs**

**Release: 1**

## MEM06006C Repair springs

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers assessing spring condition, setting and resetting springs for repair, setting up and operating spring forming equipment, forming and shaping material and testing components.
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### Application of the Unit

<b>Application of the unit</b>	<p>This unit applies to forming, shaping and setting operations for springs.</p> <p>When interpretation of technical drawings is required, Unit MEM09002B (Interpret technical drawing) should also be considered.</p> <p><b>Band: A</b></p> <p><b>Unit Weight: 4</b></p>
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### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

<b>Prerequisite units</b>		
<b>Path 1</b>	MEM06001B	Perform hand forging
	MEM06003C	Carry out heat treatment
	MEM18001C	Use hand tools

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess spring condition	1.1. Springs are checked for correct operation and defects are identified in accordance with standard operating procedures. 1.2. Springs suitable for rework are correctly identified. 1.3. Repair procedure is correctly identified.
2. Set and reset springs for repair	2.1. Correct stripping procedure is applied. 2.2. Setting tolerances are allowed for in set/reset of springs to specification. 2.3. Correct temperature is controlled for setting/resetting springs.
3. Set up and operate spring forming equipment	3.1. Equipment is safely set up and correctly used. 3.2. Material is correctly and safely positioned. 3.3. Forming equipment and tools are correctly selected and used for given application.
4. Form and shape material	4.1. Material is tapered, rolled and bent to conform with specifications. 4.2. Correct procedure is adopted for both hot and cold forming. 4.3. Allowance is made for relief and spring-back. 4.4. Material lengths are correctly determined.
5. Test components	5.1. Spring compression is determined from specifications. 5.2. Defects and dimensional accuracy are correctly determined. 5.3. Springs are correctly nested to specification.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

Look for evidence that confirms skills in:

- correctly using tools and equipment
- following plans

**REQUIRED SKILLS AND KNOWLEDGE**

- using calculations to determine material requirements
- determining repair requirements
- carrying out repairs
- following oral instruction
- checking and clarifying task-related information

**Required knowledge**

Look for evidence that confirms knowledge of:

- procedures for testing springs for correct operation/malfunction
- causes of deviations from specifications/defect in springs
- the effects of annealing, hardening, tempering, soaking and setting on spring operation
- repair and rework procedures for a range of spring defects
- hazards and control measures associated with the set-up and operation of spring forming equipment
- procedures for tapering, rolling and bending materials
- applications of both hot and cold forming processes
- allowances to be made for relief and spring-back
- procedures for recording test results
- procedures for nesting springs
- use and application of personal protective equipment
- safe work practices and procedures

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p><b>Overview of assessment</b></p>	<p>A person who demonstrates competency in this unit must be able to assess the spring condition, set and reset springs for repair, set up and operate spring forming equipment, form and shape material and test components. Competency in this unit cannot be claimed until all prerequisites have been satisfied.</p>
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.</p>
<p><b>Context of and specific resources for assessment</b></p>	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with spring repair or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
<p><b>Method of assessment</b></p>	<p>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</p>

**EVIDENCE GUIDE**

<b>Guidance information for assessment</b>	
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**Range Statement****RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

**Springs**

Laminated, compression/coil, plate etc.

**Equipment**

Tapering, coiling, stripping and buckling, and spring testing machines, but does not include automated spring making equipment

**Material**

Spring and/or specialised steel

**Unit Sector(s)**

<b>Unit sector</b>	
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**Co-requisite units**

<b>Co-requisite units</b>		

## Competency field

Competency field	Forging
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