



Australian Government

MEM07030 Perform basic metal spinning lathe operations

Release: 1

MEM07030 Perform basic metal spinning lathe operations

Modification History

Release 1. Supersedes and is equivalent to MEM07030C Perform metal spinning lathe operations (basic)

Application

This unit of competency defines the skills and knowledge required to perform basic metal spinning lathe (excluding computer numerically controlled [CNC]) operations.

It applies to manual metal spinning of sheet metals of varying thicknesses but does not include hot spinning procedures. Tool use will include either hand and/or slide tooling of varying design and materials.

Where annealing is required unit MEM05007 Perform manual heating and thermal cutting should also be selected.

Where disc blanks are required to be cut out using a dedicated circle cutter or similar unit MEM07032 Use workshop machines for basic operations should also be selected.

Where operational maintenance requires dismantling and replacing components unit MEM18055 Dismantle, replace and assemble 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: 8

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

Machine and process operations

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, job sheets or work instructions |
| | | | |
| 2 | Perform spinning operations | 2.1 | Select tools to produce components to specifications |
| | | 2.2 | Determine disc size in accordance with procedures |
| | | 2.3 | Calculate spinning speeds for various metals and metal thicknesses using appropriate mathematical techniques and reference materials |
| | | 2.4 | Select correct back centre and form chucks and mount in accordance with procedures and specifications |
| | | 2.5 | Mount prepared disc for forming |
| | | 2.6 | Perform spinning operations using a full range of spinning accessories |
| | | 2.7 | Carry out routine maintenance |
| | | | |
| 3 | Check components for conformance to specifications, remove and store them | 3.1 | Check components for conformance to specifications using appropriate techniques, tools and equipment |
| | | 3.2 | Make adjustments, as required |
| | | 3.3 | Remove components from the spinning lathe without marking or any deformation |

Elements describe the essential outcomes.

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

- 3.4 Store components and package to avoid oxidation and damage

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.

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

- spinning tools
- planishing tools
- backstick
- trimming
- beading tools

Spinning accessories include one (1) or more of the following:

- back centre
- various chucks
- trimming accessories
- blank centre equipment
- tee-rest

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

- steel
- aluminium
- monel
- copper
- brass
- zinc
- pewter
- silver
- gold

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- tin

Spinning operations include one (1) or more of the following:

- spinning
- beading
- trimming
- finishing
- annealing
- pickling

Maintenance and adjustments include the following:

- cleaning and lubrication

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM07030C Perform metal spinning lathe operations (basic)

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 MEM07030 Perform basic metal spinning lathe operations

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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
- identifying and interpreting specifications and other applicable reference documents for spinning lathe operations
- calculating disc size and spinning speeds
- selecting chucks and mounting disc for forming
- performing spinning operation using appropriate accessories to produce finished work that meets specifications
- removing finished work and storing to minimise damage
- performing operational maintenance on the lathe and related equipment and making any required adjustments to lubrication levels.

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)
- correct sequence of spinning operation
- types of spinning tools, their functions and requirements for maintaining tools
- types of damage and defects (e.g. tool marks, cracking, stress marks, thinning and incorrect finish)
- spinning lathe operation
- why and how lathe speed is calculated
- reasons for types of form chuck mounting
- function and operation of accessories for basic spinning and methods used for each process
- correct methods for stacking and protecting finished product.

Assessment Conditions

- Assessors must:

- have vocational competency in performing basic metal spinning lathe operations 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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