Australian Government

MEM07031 Perform complex metal spinning lathe operations

Release: 1

MEM07031 Perform complex metal spinning lathe operations

Modification History

Release 1. Supersedes and is equivalent to MEM07031C Perform metal spinning lathe operations (complex)

Application

This unit of competency defines the skills and knowledge required to perform complex metal spinning operations (excluding computer numerically controlled [CNC]) operations, using advanced processes, spinning tools and accessories.

Where there is a requirement to join spun materials or products in addition to, or instead of, (the spinning operation of) swaging, the following units should also be selected as appropriate:

- MEM05003 Perform soft soldering
- MEM05006 Perform brazing and/or silver soldering; or
- MEM05004 Perform routine oxy fuel gas welding; or
- MEM05012 Perform routine manual metal arc welding

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

Ba**nd: A**

Unit Weight: 4

Pre-requisite Unit

MEM07030	Perform basic metal spinning lathe operations
MEM07032	Use workshop machines for basic operations
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, drawings, job sheets or work instructions
2	**Prepare form chucks for spinning**	2.1	Select tools to produce components to specifications
		2.2	Determine disc and cut to the correct size and tolerance in accordance with procedures
		2.3	Set up metal turning lathe for machining form chucks according to standards and SOPs
		2.4	Prepare form chuck for general spinning as per drawings and specifications
		2.5	Prepare form chuck for seaming/swaging joints as per drawings and specifications
3	**Perform complex spinning operations**	3.1	Calculate spinning speeds for various metals and metal thicknesses using appropriate mathematical techniques and reference materials
		3.2	Select correct back centre and form chucks and mount according to procedures and specifications
		3.3	Mount prepared disc for forming

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		3.4	Perform complex spinning operations using accessories required to achieve the specified outcome
4	**Check components for conformance to specifications**	4.1	Check spun components for conformance to specifications using appropriate techniques, tools and equipment
		4.2	Rectify non-compliant spun components in accordance with SOPs
5	**Remove and store components**	5.1	Remove components from the spinning lathe without marking or any deformation
		5.2	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
- back centre
- holding and sectional chucks
- tee-rest
- compound and additional slides

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.

- recessed and cranked followers
- rollers and knurling wheels

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

- spinning
- beading
- recessing
- oval spinning
- screw forming
- (thread spinning) seaming
- swaging
- trimming finishing
- annealing
- pickling
- combined angles
- multi-radii

Metals include one (1) more of the following:

- steels
- aluminium
- monel
- copper
- brass
- brass alloys
- zinc, pewter
- silver
- gold
- tin

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM07031C Perform metal spinning lathe operations (complex)

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2