Australian Government
Department of Education, Employment and Workplace Relations

MEM07030C Perform metal spinning lathe operations (basic)

Release: 1

ISC INDUSTRY SKILLS COUNCILS
Creating Australia's Future

MEM07030C Perform metal spinning lathe operations (basic)

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing basic metal spinning operations (excluding CNC), using a variety of processes, spinning tools and accessories.

Application of the Unit

Application of the unit	This unit applies to manual metal spinning of sheet metals. Spinning does not include hot spinning procedures. Tool use will include either hand and/or slide tooling of varying design and materials. Where operational maintenance requires dismantling and replacing components, Unit MEM18055B (Dismantle, replace and assemble engineering components) should also be selected. If annealing is required, the appropriate unit MEM05007C (Perform manual heating and thermal cutting) should also be selected. Where disc blanks are cut out using a dedicated circle cutter or similar, Unit MEM07032B (Use workshop machines for basic operations) should also be selected. If the interpretation of technical drawings is required Unit MEM09002B (Interpret technical drawings) should also be selected. **Band**: **A** **Unit Weight**: **8**

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations

Employability Skills Information

Employability skills	This unit contains employability skills.

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Observe safety precautions	1.1. Correct safety procedures are observed and protective clothing and safety glasses are worn.
2. Determine job requirements	2.1. Drawings are interpreted and sequence of operation is determined. 2.2. Tools are selected to produce components to specifications. 2.3. Disc size is determined in accordance with appropriate procedures.
3. Perform spinning operations	3.1. Spinning speeds are calculated for various metals and metal thicknesses using appropriate mathematical techniques and reference materials. 3.2. Correct back centre and form chucks are selected and mounted in accordance with procedures and specifications. 3.3. Prepared disc is mounted for forming. 3.4. A full range of spinning accessories is used including: back centre, various chucks, trimming accessories, blank centre equipment and tee-rest. 3.5. Spinning operations are performed to specifications.
4. Check components for conformance to specifications	4.1. Components are checked for conformance to specifications using appropriate techniques, tools and equipment.
5. Remove and store components	5.1. Components are removed from the spinning lathe without marking or any deformation. 5.2. Components are correctly stored and packaged to avoid oxidation and damage.
6. Adjust and maintain spinning lathe	6.1. Routine maintenance and adjustments are carried out as required.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills

REQUIRED SKILLS AND KNOWLEDGE

Look for evidence that confirms skills in:

- reading and interpreting routine information on written job instructions, specifications and standard operating procedures. May include drawings
- following oral instruction
- entering routine and familiar information onto proformas and standard workplace forms
- using all basic metal spinning tools
- minimising damage and defects
- calculating disc size and lathe speed
- undertaking manual handling related to spinning products
- using appropriate techniques, tools and equipment to measure materials and spinnings

Required knowledge

Look for evidence that confirms knowledge of:

- 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
- methods used for each process
- methods for stacking and protecting finished product
- use and application of personal protective equipment
- safe work practices and procedures
- hazards and control measures associated with metal spinning lathe operations (basic)

Evidence Guide

EVIDENCE GUIDE	
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.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform basic metal spinning lathe operations. Competency in this unit cannot be claimed until all prerequisites have been satisfied.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	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.
Context of and specific resources for assessment	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. This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing basic metal spinning lathe operations or other units requiring the exercise of the skills and knowledge covered by this unit.
Method of assessment	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.

EVIDENCE GUIDE	
Guidance information for assessment	

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.	
Tools	Spinning tools, planishing tools, backstick, trimming, beading tools etc.
Metals	Steel, aluminium, monel, copper, brass, zinc, pewter, silver, gold, tin, etc. of varying thicknesses
Reference materials	Workplace reference materials
Spinning operations	Spinning, beading, trimming, finishing, annealing and/or pickling
Maintenance and adjustments	Cleaning, lubrication etc.

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units	

Co-requisite units		

Competency field

Competency field	Machine and process operations