



**Australian Government**

# **MEMPE001 Use engineering workshop machines**

**Release: 1**

# MEMPE001 Use engineering workshop machines

## Modification History

Release 1. Supersedes and is equivalent to MEMPE001A Use engineering workshop machines.

## Application

This unit of competency defines the skills and knowledge required to set up machine components using appropriate machines. Tooling might need to be re-sharpened but not ground up from a blank. The setting for the machines are calculated by the individual from given formulas, surface speeds and feed rates.

This unit describes entry-level skills and knowledge in preparation for employment within the metal, engineering, manufacturing and associated industries and is suitable for use in institutional-based vocational programs. Skills development takes place under direct supervision.

It is not to be used in a traineeship or apprenticeship training program or associated qualifications. It is only to be used in employment preparation programs and carries no direct credit towards apprenticeship/trade and other qualification types in manufacturing and engineering.

This skills in this unit are intended to be developed in combination with the project unit, MEMPE006 Undertake a basic engineering project.

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

## Pre-requisite Unit

Nil

## Competency Field

Pre-employment

## Elements and Performance Criteria

| Elements                                         | Performance Criteria                                                                                                                          |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                        |
| 1. Prepare a job plan                            | 1.1 Comply with work health and safety (WHS) requirements at all times<br>1.2 Identify job requirements from work information in consultation |

| Elements                                         | Performance Criteria                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                     |
|                                                  | with a supervisor<br>1.3 Identify appropriate machines in accordance with job requirements<br>1.4 Identify appropriate tooling in accordance with job requirements<br>1.5 Calculate cutting speeds and feeds<br>1.6 Prepare a job plan showing machines, tooling, cutting speeds and feeds and an appropriate sequence of operations<br>1.7 Confirm plan with a supervisor |
| 2. Prepare for machining                         | 2.1 Obtain appropriate tooling and materials<br>2.2 Set up tools and materials to meet job requirements<br>2.3 Set required speeds and feeds                                                                                                                                                                                                                               |
| 3. Perform machining                             | 3.1 Use and wear appropriate personal protective equipment (PPE) in accordance with procedures<br>3.2 Follow safe machining practices<br>3.3 Machine materials to job requirements<br>3.4 Use measuring equipment<br>3.5 Store completed work in a manner which will prevent/minimise potential damage                                                                     |
| 4. Complete work requirements                    | 4.1 Clear work area of waste and clean according to requirements<br>4.2 Maintain and/or store machines, tools and equipment according to instructions                                                                                                                                                                                                                      |

## Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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, needs of the

|                                                                                               |                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| candidate, accessibility of the item, and local industry and regional contexts) are included. |                                                                                                                                                                                                                           |
| Appropriate machines includes two or more of the following:                                   | <ul style="list-style-type: none"><li>• lathes</li><li>• milling machines</li><li>• cut off saws</li><li>• pedestal grinders</li><li>• fixed position drilling machines</li><li>• computer-controlled machines.</li></ul> |
| Work information includes one or more of the following:                                       | <ul style="list-style-type: none"><li>• drawings</li><li>• sketches</li><li>• job instructions</li><li>• schematics</li><li>• diagrams</li><li>• technical manuals.</li></ul>                                             |
| Measuring equipment includes one or more of the following:                                    | <ul style="list-style-type: none"><li>• micrometers</li><li>• vernier scaled measuring devices</li><li>• rules</li><li>• calipers</li><li>• gauges.</li></ul>                                                             |

## Unit Mapping Information

Release 1. Supersedes and is equivalent to MEMPE001A Use engineering workshop machines.

## 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 MEMPE001 Use engineering workshop machines

## Modification History

Release 1. Supersedes and is equivalent to MEMPE001A Use engineering workshop machines.

## Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- following work instructions and safe work practices
- preparing a job plan on at least two occasions
- preparing for machining
- calculating speeds and feeds
- performing machining on at least two occasions
- using appropriate measuring equipment
- cleaning and storing of equipment.

*Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.*

## 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)
- machines used to cut metal
- safe machine operation procedures
- material and equipment preparation requirements
- basic marking out techniques
- use and care of measuring tools
- types of machines for cutting, grinding, drilling, turning and milling
- work and tool holding methods for each machine.

## Assessment Conditions

- Assessors must:
  - have vocational competency in using engineering workshop machines 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 as the case requires.
- This unit must be assessed in a learning institution and must cover the successful use of a lathe and other relevant workshop machines and the skills developed would usually be developed by an individual working alone under direct supervision.
- Assessment must be in conjunction with assessment of the project unit and other units integrated into the project.
- 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.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>