



Australian Government

Assessment Requirements for MEM18015 Maintain tools and dies

Release: 2

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Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18015 Maintain tools and dies (Release 1).

Release 1. Supersedes and is equivalent to MEM18015B Maintain tools and dies.

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, drawings and sample products/components to maintain tools and dies
- examining defective tooling for breakage, wear and defects requiring precision repair
- disassembling the defective tooling in accordance with acceptable tool making techniques and procedures and marking worn/damaged components for repair or replacement
- obtaining appropriate materials for manufacture of replacement tooling components and testing for hardness
- using appropriate hand and hand held power tools to fashion/manufacture tooling components to specifications and utilising sample components or sections to test tooling components being manufactured
- shaping and producing the tooling components to specifications using appropriate machines and machine processes and initiating heat treatment, where required
- assembling and fitting all tooling components to specifications using acceptable tool making techniques and procedures
- using precision instruments to check the first-off component/product for compliance to specifications
- recording the conditions that lead to the failure of a given set of tooling and initiating design modifications/alterations to rectify recurring faults or failure.

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)
- common tooling defects from a range of sample products/components and reasons and probable causes of tooling failure
- reasons for establishing a sequential plan for the repair/maintenance of defective tooling
- procedures for:

- documenting plans for the repair/maintenance of defective tooling
- disassembling defective tooling
- identifying worn/damaged tooling and components for repair or replacement
- obtaining/selecting the chosen materials in terms of strength, durability, component finish, heat treatment requirement, availability and reasons for selection
- hardness testing materials
- initiating the heat treatment of tool steels and components and heat treatment requirements to achieve specified hardness
- fitting/assembling the tooling components and precautions to be taken
- fitting/assembling the tooling components
- documenting the chosen mode of tooling failures
- initiating modifications/alterations to tooling design
- specifications of all tooling components
- precision instruments to be used to check tooling components for conformance to specification and reasons for selection
- reasons for deciding to repair or replace worn/damaged components
- appropriate materials, including physical properties for each component of the tooling to be replaced
- hand and hand held power tools to be used to fashion/manufacture the required tooling components and reasons for selection
- appropriate machines and machining processes to shape/produce the required tooling components and reasons for selection
- effect of machining parameters on the surface finish and tolerances achievable from machining processes for given machining tasks and specifications
- reasons for heat treating the tool steel in accordance with heat treatment procedures and specifications
- appropriate precision instruments for checking the components produced
- specifications of the finished product
- common causes of tooling failure and conditions leading to the failure of a given set of tooling
- previous faults with the given set of tooling
- any commonalities of causes of failures or trends/events associated with tooling failure and proposed solutions for a range of recurrent faults that may occur in tooling and reasons for selection.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining tools and dies 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.

- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including 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.

Links

Companion Volume implementation guides are found in VETNet -

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