



Australian Government

MEM06005 Perform drop and upset forging

Release: 1

MEM06005 Perform drop and upset forging

Modification History

Release 1. Supersedes and is equivalent to MEM06005B Perform drop and upset forging

Application

This unit of competency defines the skills and knowledge required to select, set up and operate drop and upset forging equipment where material is forged to specified dimensional accuracy and finish.

Where routine, repetitive cold upset forging is required unit MEM07024 Operate and monitor machine and process should be selected.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM06002	Perform hammer forging
MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Forging

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, sketches, job sheets or work instructions |
| 2 | | | |
| | Identify and select drop and upset forging equipment and tools for specific operation | 2.1 | Select appropriate equipment suitable for the size of material and forging procedures |
| | | 2.2 | Select dies and punches for specific operations and equipment |
| | | 2.3 | Determine die replacement with regard to relief allowances, cracking and dimensions |
| 3 | | | |
| | Set up and operate drop and upset forging equipment | 3.1 | Set up equipment, adjust and operate |
| | | 3.2 | Apply correct die setting techniques in setting appropriate die and punch alignment |
| | | 3.3 | Apply correct die preheating procedures |
| 4 | | | |
| | Prepare material | 4.1 | Prepare materials and heat in accordance with job requirements and/or specifications |
| 5 | | | |
| | Drop and upset forge material | 5.1 | Calculate material amounts with allowance for heat wastage and flash or fin |
| | | 5.2 | Drop forge material using the correct procedures and techniques |
| | | 5.3 | Apply correct lubricant for die wear and forging release |

Elements describe the essential outcomes.

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

- 5.4 Determine correct grain flow
- 5.5 Identify and correct galls, folds and cracks
- 5.6 Carry out removal of flash or fin in accordance with SOPs

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.

Equipment includes one (1) or more of the following:

- drop forging hammer/press
- open die forging hammer using closed loose die or horizontal upsetting machine (heading machine)

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

- ferrous materials (steel)
- non-ferrous material (copper and aluminium bronze)

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

- graphite bearing oils/greases
- cellulose granules
- waxes

Correct removal includes one (1) or more of the following:

- ejector pins
- drafts in die (angle)

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM06005B Perform drop and upset forging

Links

Companion Volume implementation guides are found in VETNet -

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