



Australian Government

MEM20008 Develop and implement a masterkey system

Release: 1

MEM20008 Develop and implement a masterkey system

Modification History

Release 1. Supersedes and is equivalent to MEM20008A Develop and implement a masterkey system

Application

This unit of competency defines the skills and knowledge required to create new commercial masterkey systems and expand existing keying systems, using even cut and rotating constant progression methods.

It applies to masterkey systems written manually and using a computer masterkeying package for high security cylinders, primarily for commercial operations.

Where standard hierarchical keying is required unit MEM20007 Plan and prepare a masterkey system should also be selected.

Where a security survey/site assessment is required unit MEM20014 Perform a site security survey should also be selected.

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

Band:

This unit has dual status and is to be regarded as both a Specialisation Band A unit and Specialisation Band B unit for progression to C5 (AQF level V).

Unit Weight: 6

Pre-requisite Unit

MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM20001	Produce keys
MEM20002	Assemble and test lock mechanisms
MEM20007	Plan and prepare a masterkey system

Competency Field

Locksmithing

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 | Select and use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, job sheets or work instructions |
| | | | |
| 2 | Assess customer requirements | 2.1 | Consider physical characteristics of existing locks and other security devices and determine requirement for additional site inspection |
| | | 2.2 | Discuss customer access and task requirements and clarify according to SOPs |
| | | 2.3 | Interpret architectural plans, floor plans and charts when planning and preparing a masterkey system as required |
| | | 2.4 | Evaluate customer requirements with respect to current capacity, and make recommendations for the design of new/expanded system |
| | | 2.5 | Identify personal limitations in assessing requirements for masterkey system and seek assistance from appropriate person(s) in accordance with SOPs |
| | | | |
| 3 | Design masterkey system and system modifications | 3.1 | Design commercial masterkey system to meet customer complex access requirements |
| | | 3.2 | Check system for interchange |
| | | 3.3 | Apply principles and processes of masterkeying in accordance with industry practice and organisational |

Elements describe the essential outcomes.

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

4	Finalise system design	4.1	Review final system design and keying requirements and confirm with appropriate person(s) in accordance with organisational requirements
		4.2	Prepare documentation to allow for future interpretation and design requirements
		4.3	Prepare documentation and process and store in accordance with client, legislative requirements and 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, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Task requirements include one (1) or more of the following:

- specific client requirements and quantities
- completion times and dates
- job requirements and tasks
- signature authorities
- WHS requirements
- company requirements
- compliance with relevant manufacturer requirements, warranties and service information

System expansion includes creation of excess codes to allow for one (1) or more of the following:

- lost keys
- unusable codes
- future customer requirements
- multi-broaching

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Commercial masterkey systems include one (1) or more of the following:

- multi-profile inline pin tumbler cylinders
- rotating disc tumbler (Abloy)
- rotating pin tumbler (Medeco)
- radial pin tumbler (Kaba, Mul-T-lock)
- pin tumbler sidebar (Bilock, Twin)
- slider sidebar (Evva)

Complex access requirements include one (1) or more of the following:

- cross-keying
- sub-masterkeying
- incidental masterkeying
- selective keying
- construction keying
- maisonning

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

- materials used
- masterkey plans:
 - code matrix
 - key and door schedules
- job sheets
- manufacturer documentation
- identified faults
- warranties and recommendations
- costs

Unit Mapping Information

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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 MEM20008 Develop and implement a masterkey system

Modification History

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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
- discussing customer access and task requirements and clarifying in accordance with SOPs
- interpreting architectural plans, floor plans and charts when developing and implementing a masterkey system
- evaluating system and expansion requirements
- determining and designing the required structure of a commercial masterkeying system and key matrix based on customer requirements
- recognising personal limitations in assessing requirements for key and masterkey systems and seeking assistance from appropriate person(s) in accordance with SOPs
- undertaking numerical operations and calculations, including mathematical patterns associated with developing and implementing a masterkey system
- developing and reading progression charts for in-line key systems using even cut and rotating constant methods, rotating disc, radial pin and pin sidebar key systems
- developing and reading progression charts and selecting codes that maximise system security
- identifying incidental masters in a key system, selecting a group of codes to form a maisioned cylinder, determining the maximum number of codes that can be produced and identifying any unused codes in an existing system
- expanding the existing key system by using multi-broached plugs/barrels and by converting the progression from even cut to rotating constant
- checking system for interchange, including accidental interchange in accordance with SOPs
- completing all documentation in accordance with SOPs.

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)
- ethical considerations in locksmithing work

- record keeping and management
- manufacturers'/Australian/building standards
- product knowledge and limitations
- key matrixes and schedules
- allowances for expansion
- operation and limitations of masterkey systems
- tiers of systems (KD, KA, MK, GMK, GGMK)
- door handing and cylinder types
- principles of construction keying, sub-masterkeying, cross-keying, selective keying and maison keying
- criteria for key code selection
- strategies for checking key systems for interchange and incidental masters
- strategies for using incidental masters to create sub-masterkeys, cross-keys and selective keys
- strategies for selecting groups of codes to form a maisonned cylinder.

Assessment Conditions

- Assessors must:
 - have vocational competency in developing and implementing a masterkey system 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
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, 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.

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