



Australian Government

MEM20029 Develop and implement a master key system

Release: 1

MEM20029 Develop and implement a master key system

Modification History

Release 1. Supersedes and is equivalent to MEM20008 Develop and implement a masterkey system.

Application

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

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

Where a security survey/site assessment is required unit MEM20035 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

MEM20023 Assemble and test lock mechanisms

MEM20028 Plan and prepare a master key system

MEM20015 Produce hand cut keys

MEM20016 Produce keys by cutting to code

MEM20017 Produce keys by duplication

Competency Field

Locksmithing

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. 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 personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications
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 in accordance with SOPs 2.3 Interpret architectural plans, floor plans and charts when planning and preparing a master key system in line with scope of job requirements 2.4 Evaluate customer requirements with respect to current capacity, and make recommendations for the design of new or expanded system 2.5 Identify personal limitations in assessing requirements for master key system and seek assistance from appropriate personnel in accordance with SOPs
3. Design master key system and system modifications	3.1 Design commercial master key system to meet customer complex access requirements 3.2 Check system for interchange based on specifications 3.3 Apply principles and processes of master keying in accordance with industry practice and organisational requirements
4. Finalise system design	4.1 Review final system design and keying requirements and confirm with appropriate personnel 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 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

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.

Specifications include one or more of the following:	- drawings - job sheets - work instructions - work orders.
Customer requirements includes:	- specific client requirements and quantities - job requirements and tasks - work health and safety (WHS) requirements Plus one or more of the following: - completion times and dates - signature authorities - company requirements - compliance with relevant manufacturer requirements, warranties and service information.
System expansion includes creation of excess codes to allow for one or more of the following:	- multi-broaching Plus one or more of the following: - lost keys - unusable codes - future customer requirements.
Commercial master key systems include:	- rotating disc tumbler - radial pin tumbler - pin tumbler sidebar Plus one or more of the following: - multi-profile inline pin tumbler cylinders - rotating pin tumbler - slider sidebar.
Complex access requirements include	- cross-keying - sub-master keying

one or more of the following:	• incidental master keying • selective keying • construction keying • maisonning.
Documentation includes one or more of the following:	• materials used • master key plans master key plans that may involve key and door schedules and code matrices • job sheets • manufacturer documentation • identified faults • warranties and recommendations • costs.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM20008 Develop and implement a master key system.

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 MEM20029 Develop and implement a master key 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 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 master key system
- evaluating system and expansion requirements
- determining and designing the required structure of a commercial master keying system and key matrix based on customer requirements on at least two occasions
- recognising personal limitations in assessing requirements for key and master key systems and seeking assistance from appropriate personnel in accordance with SOPs
- undertaking numerical operations and calculations including mathematical patterns associated with developing and implementing a master key 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 on at least two occasions
- 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 on at least two occasions
- 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.

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)
- ethical considerations in locksmithing work
- record keeping and management
- types of manufacturer standards, Australian Standards and building standards that impact master key work
- product knowledge and limitations
- key matrixes and schedules
- allowances for expansion
- operation and limitations of master key systems
- tiers of systems including:
 - keyed different (KD)
 - keyed alike (KA)
 - master key (MK)
 - grand master key (GMK)
 - great grand master key (GGMK)
- door handing and cylinder types
- principles of construction keying, sub-master keying, 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-master keys, cross-keys and selective keys
- strategies for selecting groups of codes to form a maisonned cylinder.
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Assessment Conditions

- Assessors must:
 - have vocational competency in developing and implementing a master key 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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