



Australian Government

MEM20007 Plan and prepare a masterkey system

Release: 1

MEM20007 Plan and prepare a masterkey system

Modification History

Release 1. Supersedes and is equivalent to MEM20007A Plan and prepare a masterkey system

Application

This unit of competency defines the skills and knowledge required to create a new masterkey system for in-line pin tumbler cylinders up to and including a hierarchical great grand masterkey (GGMK) system and maisonning. It applies to manually developing a standard (even cut) progression in-line masterkey system and using a computer masterkeying package.

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

Where cross keying, sub-masterkeying and selective keying is required unit MEM20008 Develop and implement a masterkey system should also be selected.

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

Band: A

Unit Weight: 4

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

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	Discuss customer needs and clarify according to SOPs
		2.2	Review appropriate levels of security/access with respect to customer assets, activities and existing security arrangements
		2.3	Interpret architectural plans, floor plans and charts when planning and preparing a masterkey system as required
		2.4	Prepare door and lock schedules and other appropriate documentation according to SOPs
		2.5	Match customer requirements to the mechanical possibilities and limitations of masterkey systems
		2.6	Identify options and advise customer on options and alternatives
		2.7	Identify personal limitations in assessing requirements for key systems and masterkey systems and seek assistance from appropriate person(s) in accordance with SOPs
3	Design masterkey system	3.1	Develop keying matrix to customer requirements, allowing for future system expansion and mechanical capabilities of system
		3.2	Produce key codes (code matrix) from mathematical permutations and calculations according to customer requirements

Elements describe the essential outcomes.

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

		3.3	Select key codes from matrix that maximise system security
		3.4	Develop key cutting and cylinder pinning charts
		3.5	Identify incidental masterkeys within progression charts
		3.6	Check and confirm there are no phantoms in the system
		3.7	Apply principles of masterkeying 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 person(s) in accordance with SOPs
		4.2	Prepare documentation and process and store in accordance with client, legislative and organisational requirements

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.

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

- physically
- off the plan

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.

Customer 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

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

- restricted, semi-restricted and non-restricted system numbers
- manufacturer restricted and factory restricted
- locksmith restricted/managed
- association restricted
- tiers, including:
 - keyed different (KD)
 - keyed alike (KA)
 - masterkey (MK)
 - grand masterkey (GMK)
 - great grand masterkey (GGMK)

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

- lost keys
- unusable codes
- future customer requirements
- multibroaching

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

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM20007A Plan and prepare a masterkey 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 MEM20007 Plan and prepare a masterkey system

Modification History

Release 1. Supersedes and is equivalent to MEM20007A Plan and prepare a masterkey system

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 requirements and reviewing appropriate levels of security/access
- interpreting architectural plans, floor plans and charts when planning and preparing a masterkey system
- recognising personal limitations in assessing requirements for key and masterkey systems and seeking assistance from appropriate person(s) in accordance with SOPs
- identifying the appropriate key system and levels according to customer requirements
- undertaking numerical operations and calculations, including mathematical patterns associated with planning and preparing a masterkey system
- developing a masterkey system and key matrix allowing for future expansion
- developing and reading code matrix and selecting codes that maximise system security
- identifying incidental masters in a key system and selecting a group of codes to form a maisioned cylinder
- 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)
- record keeping and management
- manufacturers'/Australian/building standards
- product knowledge and limitations
- code matrixes, key and door schedules
- allowances for expansion
- operation and limitations of masterkey systems
- tiers of systems (KD, KA, MK, GMK and GGMK)
- door handing and cylinder types
- criteria for key code selection

- strategies for checking key systems for interchange and incidental masters
- strategies for checking key systems for phantoms
- principles of maison keying
- strategies for code selection.

Assessment Conditions

- Assessors must:
 - have vocational competency in planning and preparing 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.

Links

Companion Volume implementation guides are found in VETNet -

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