



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEM20008A Develop and implement a masterkey system**

**Release: 2**

## **MEM20008A Develop and implement a masterkey system**

### **Modification History**

Single band identifier removed to clarify dual status

## Unit Descriptor

|                        |                                                                                                                                                                                                                                                                                                                              |
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| <b>Unit descriptor</b> | This unit covers creating new commercial masterkey systems and expanding existing keying systems using even cut and rotating constant progression methods. Emphasis is on cross keying, submasterkeying, selective masterkeying, construction keying, maisonning and hierarchical systems up to and including a GGMK system. |
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## Application of the Unit

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application of the unit</b> | <p>This unit applies to writing masterkey systems for high security cylinders, primarily for commercial operations.</p> <p>Systems are written manually and using a computer masterkeying package.</p> <p>All relevant legislative requirements, policies and procedures and codes of practice are adhered to including hazardous and risk assessment, use of codes of practice, ergonomics.</p> <p>If a security survey/site assessment is required, then Unit MEM20014A (Perform a site security survey) should also be selected.</p> <p>For standard hierarchical keying, refer to Unit MEM20007A (Plan and prepare a masterkey system).</p> <p><b>Band:</b></p> <p>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).</p> <p><b>Unit Weight: 6</b></p> |
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## Licensing/Regulatory Information

Not Applicable

## Pre-Requisites

| Prerequisite units |           |                                     |
|--------------------|-----------|-------------------------------------|
| Path 1             | MEM20001A | Produce keys                        |
|                    | MEM20002A | Assemble and test lock mechanisms   |
|                    | MEM20007A | Plan and prepare a masterkey system |

## Employability Skills Information

|                      |                                          |
|----------------------|------------------------------------------|
| Employability skills | This unit contains employability skills. |
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## Elements and Performance Criteria Pre-Content

|                                                                   |                                                                                                                                                                                                                                                                                                                  |
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| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide. |
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## Elements and Performance Criteria

| ELEMENT                                             | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Assess customer requirements                     | <p>1.1. Physical characteristics of existing locks and other security devices are considered and requirement for additional site inspection is determined.</p> <p>1.2. Customer access and task requirements are discussed and clarified according to organisational procedures.</p> <p>1.3. Customer requirements are evaluated with respect to current capacity, and recommendations are made for the design of new/expanded system.</p> <p>1.4. Personal limitations in assessing requirements for masterkey system are identified and assistance is sought from appropriate person(s) in accordance with organisational procedures.</p> |
| 2. Design masterkey system and system modifications | <p>2.1. Commercial masterkey system is designed to meet customer complex access requirements.</p> <p>2.2. System is checked for interchange.</p> <p>2.3. Principles and processes of masterkeying are applied in accordance with industry practice and organisational requirements.</p>                                                                                                                                                                                                                                                                                                                                                     |
| 3. Finalise system design                           | <p>3.1. Final system design and keying requirements are reviewed and confirmed with appropriate person(s) in accordance with organisational requirements.</p> <p>3.2. Documentation is prepared to allow for future interpretation and design requirements.</p> <p>3.3. Documentation is accurately prepared and processed and stored in accordance with client, legislative and organisational requirements.</p>                                                                                                                                                                                                                           |

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

Look for evidence that confirms skills in:

- listening and questioning
- reading architectural plans, floor plans and charts

## REQUIRED SKILLS AND KNOWLEDGE

- evaluating system and expansion requirements
- determining the required structure of a keying system based on customer requirements
- developing key matrix
- developing and reading progression charts for in-line key systems using even cut and rotating constant methods
- developing and reading progression charts for rotating disc, radial pin and pin sidebar key systems
- selecting codes from progression chart that maximise system security
- checking own and others' codes for interchange
- identifying incidental masters in a key system and using them to achieve complex access requirements
- selecting groups of codes to form a maisonned cylinder
- determining the structure of the design of an existing system and the maximum number of codes that can be produced
- identifying any unused codes in an existing system
- expanding an existing key system by using multibroached plugs/barrels
- expanding an existing key system by converting the progression from even cut to rotating constant
- creating/saving and storing information/documentation
- applying calculations and formulae within the scope of this unit

## Required knowledge

Look for evidence that confirms knowledge of:

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

**REQUIRED SKILLS AND KNOWLEDGE**

- calculations and formulae within the scope of this unit

## Evidence Guide

### EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

#### Overview of assessment

A person who demonstrates competency in this unit must be able to develop and implement a masterkey system, which has complex access requirements. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

#### Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

#### Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with developing and implementing a masterkey systems, or other units requiring the exercise of the skills and knowledge covered by this unit.

#### Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

**EVIDENCE GUIDE****Guidance information for assessment****Range Statement****RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

|                                     |                                                                                                                                                                                                                                                            |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Task requirements</b>            | Specific client requirements and quantities, completion times and dates, job requirements and tasks, signature authorities, OHS requirements, company requirements, compliance with relevant manufacturer requirements, warranties and service information |
| <b>Expanded</b>                     | Creation of excess codes to allow for lost keys, unusable codes and future customer requirements, multibroaching                                                                                                                                           |
| <b>Masterkey system</b>             | A generic term to describe a group of cylinders operated by more than one key                                                                                                                                                                              |
| <b>Commercial masterkey systems</b> | Currently available commercial cylinders e.g. rotating disc tumbler (Abloy), radial pin tumbler (Kaba), pin sidebar (Bilock) and multibroach inline pin tumbler cylinders                                                                                  |
| <b>Complex access requirements</b>  | Cross keying, submaster keying, selective keying, construction keying and maisonning                                                                                                                                                                       |
| <b>Interchange</b>                  | <ul style="list-style-type: none"> <li>Interchange is the all-compassing word for the different types</li> <li>Accidental interchange is when a key operates a cylinder in system that it is not intended to operate</li> </ul>                            |
| <b>Documentation</b>                | Materials used, identified faults, warranties and                                                                                                                                                                                                          |

**RANGE STATEMENT**

|  |                        |
|--|------------------------|
|  | recommendations, costs |
|--|------------------------|

**Unit Sector(s)**

|                    |  |
|--------------------|--|
| <b>Unit sector</b> |  |
|--------------------|--|

**Co-requisite units**

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|---------------------------|--|--|
| <b>Co-requisite units</b> |  |  |
|                           |  |  |
|                           |  |  |

**Competency field**

|                         |              |
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| <b>Competency field</b> | Locksmithing |
|-------------------------|--------------|