Title	**Develop, modify, and implement a commercial master key system and modify in-line pin systems**		
Level	**5**	**Credits**	**10**

Purpose	People credited with this unit standard are able to: assess customer requirements for commercial level security and access; design commercial master key system; modify design of in-line master key and commercial master key systems; finalise system design, and produce and store records; and produce master keyed cylinder mechanisms.

Classification	Mechanical Engineering > Locksmithing

Available grade	Achieved

Guidance Information

1 Unit 30965, *Manually design a master key system*; Unit 30969, *Design a master key system using a computer and software package*; Unit 30970, *Demonstrate and apply knowledge of designing a master key system*; and Unit 12925*, Demonstrate knowledge of locksmithing ethics* are recommended for entry into this unit standard.

2 Legislation
Health and Safety at Work Act 2015.

3 Definitions
Accepted industry practice refers to codes of practice and standardised procedures accepted by the wider locksmithing industry as examples of best practice.
Accidental interchange is when a key operates a cylinder in the system that it is not intended to operate.
Commercial master key system is a keying system with more security features than a standard in-line pin system, which increase the security and complexity of coding into a key system.
Construction keying means a technique of coding cylinders to allow the construction company access to the premises while construction is in progress, but can quickly lockout the construction company once the customer takes responsibility for the building.
Maison keying means the coding of a cylinder for the front door of a building so that all tenants can unlock that door.
Master key system is a generic term to describe a group of cylinders operated by more than one key.
Radial pin tumbler means a cylinder in which the pins radiate out from the key. It is sometimes referred to as a dimple key. It does not refer to the Axial design where the pins are mounted around the axis of the key as used in the design by manufacturers such as 'Gem', 'Fort' and 'Chicago'.

Workplace procedures refer to the procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.

4 Assessment information
All activities must comply with applicable workplace procedures and must be consistent with accepted industry practice.

Outcomes and performance criteria

Outcome 1

Assess customer requirements for commercial level security and access.

Performance criteria

1.1 Physical characteristics of existing locks and other security devices are considered and any requirement for additional site inspection is determined.

1.2 Customer access and task requirements are discussed and clarified.

Range task requirements – specific customer requirements and quantities, completion times and dates, job requirements and tasks, signature authorities, legislative requirements, compliance with relevant manufacturer requirements, warranties and service information.

1.3 Customer requirements are evaluated and recommendations made for the design of a new or expanded system.

Range current capacity, expandability, mechanical possibilities and limitations, system quality, security degradation.

1.4 Personal limitations in assessing requirements for master key system are identified and assistance is sought from appropriate person(s).

Outcome 2

Design commercial master key system.

Performance criteria

2.1 Commercial master key system is designed to meet customer complex access requirements.

Range examples of commercial master key system – rotating disc tumbler (Abloy), radial pin tumbler (Kaba), pin sidebar (Bilock), multibroach in-line pin tumbler cylinders, interchangeable core, pins with positional keying;
examples of complex access requirements – cross keying, sub-master keying, selective keying, construction keying, maison keying.

2.2 System is checked for accidental interchange.

2.3 Principles and processes of master keying are applied.

Outcome 3

Modify design of in-line master key and commercial master key systems.

Performance criteria

3.1 Master key system is modified to meet the changed requirements of the customer.

Range unused codes, cross keying, sub-master keying, selective keying, construction keying, maison keying, convert from even cut to rotating constant and multibroaching.

3.2 System is checked for accidental interchange.

3.3 Principles and processes of master keying are applied.

Outcome 4

Finalise system design, and produce and store records.

Performance criteria

4.1 System design and keying requirements are reviewed and confirmed with appropriate person(s).

4.2 Final system design is explained to customer and confirmed that it meets with customer requirements.

4.3 Documentation is accurately prepared and processed and stored according to customer and legislative requirements.

Range materials used, key and cylinder coding, identified faults, warranties and recommendations, costs.

Outcome 5

Produce master keyed cylinder mechanisms.

Performance criteria

5.1 Keys are cut from design charts.

5.2 Lock assembly is assembled according to coding charts.

5.3 Operation of locks and keys are tested to ensure correct operation and are without accidental interchange.

Planned review date	31 December 2023

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 May 2006	31 December 2022
Review	2	1 March 2018	N/A

Consent and Moderation Requirements (CMR) reference	0013

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.