

41320**Design a master key system using digital software**

Kaupae Level	4
Whiwhinga Credit	10
Whāinga Purpose	This skill standard is intended for people who are already working in the locksmithing industry. Learners credited with this skill standard will be able to design a three-tier master key system using digital software that meets security and operational requirements. They will also be able to produce a range of reports and replace lost key(s) in a master key system using digital software. This skill standard aligns with the New Zealand Certificate in Locksmithing (Trade) (Level 4) [Ref: 2718].

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Create a three-tier design from a level four master key system using digital software.	a. Map areas and doors to a three-tier hierarchy to meet specified access requirements and input into digital software accurately.
	b. Select appropriate Main Perm.
	c. Create a progression chart.
	d. Input planned coding design into digital software accurately.
	e. Generate 64 change key matrix.
	f. Identify and mark out any bad codes.
	g. Check chosen software system for accuracy.
2. Select key codes and produce pinning charts for the planned master key system.	a. Assign codes to keys as per keying matrix.
	b. Identify and mark out all ghost codes and resolve all phantom keys.
	c. Produce pinning charts to correspond to the keying schedule.
3. Produce a range of reports for a master key system.	a. Generate a range of reports using digital software for a master key system.

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
4. Replace lost key(s) in a master key system.	a. Replace lost key(s).
	b. Generate and validate new key codes for affected areas.
	c. Update customer records and produce pinning chart for the affected locks.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications:

- Lost key replacement must include the following steps – mark the lost key as deleted, remove it from all locks, and ensure that it can't be accidentally used in the future.
- Evidence presented for assessment against this skill standard can be achieved using a hypothetical scenario. Learners are not required to plan a master key design for an actual customer.
- Evidence presented for assessment against this skill standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.
- It is recommended that people hold credits for skill standard 41319, *Design a master key system manually* or demonstrate equivalent knowledge and skills before being assessed against this skill standard.

Definitions:

Locksmithing terminology is defined as per MLAA glossary:

Bitting refers to a potential key. These numbers represent the cuts of a key.

Depth steps refer to the minimum difference between useable depths. Set at the creation of the system, this will dictate the number of unique codes which can be produced from a chamber.

Ghost refers to a bitting which if cut, will become a phantom. Ghost may also refer to codes reserved for future use.

Level four system refers to a system where four positions are progressed.

Main Perm refers to the highest level code the system is derived from. Digital master key software refers to Top Master Key (TMK) instead of Main Perm.

MLAA refers to Master Locksmiths Association of Australasia.

Phantom refers to a key which utilises existing shearlines to operates locks it is not authorised to operate.

Pinning refers to the specific combination of pins contained within a cylinder to allow the authorised keys to operate.

Progression chart refers to a schedule detailing the designation, depth steps and sequence of progression for each progressed chamber.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, manufacturer's requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the locksmithing industry.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Master key system – digital design

- Importance of tracking information.
- Software specific terminology.
- Digital reports such as signatory form, key confirmation, pinning chart, keying matrix, key report.
- Lost key replacement – updating signatories, key hierarchy, key groups.

Rauemi | Resources

Legislation, regulations and industry guidelines relevant to this skill standard include but are not limited to:

- Health and Safety at Work Act 2015.
- Privacy Act 2020.
- Master Locksmiths Association Australasia. (current version). *MLAA Glossary of Masterkeying Terms*. Available from: <https://masterlocksmiths.com.au/>.

Pārongo Whakaū Kounga | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Manufacturing and Engineering Industry Skills Board
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Engineering and Technology > Mechanical Engineering > Locksmithing
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0014

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	28 May 2026	N/A
Kōrero whakakapinga Replacement information	N/A		
Rā arotake Planned review date	31 December 2031		

Please contact Manufacturing and Engineering Industry Skills Board at qualifications@maeisb.nz to suggest changes to the content of this skill standard.