

Title	Demonstrate knowledge of removing and refitting automotive air conditioning, cooling and oil cooling system components		
Level	3	Credits	4

Purpose	This unit standard is for people who wish to enter or are employed in the collision repair industry. People credited with this unit standard are able to demonstrate knowledge of removing and refitting automotive air conditioning, cooling and oil cooling system components.
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Classification	Motor Industry > Collision Repair
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Available grade	Achieved
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Guidance Information

- 1 Legislation and references
Performance of the outcomes of this unit standard must comply with the following:
Health and Safety at Work Act 2015;
Hazardous Substances and New Organisms Act 1996.
- 2 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 3 Definitions
Company requirements refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications and legislative requirements.
Service information may include but is not limited to – vehicle structural repairer code of practice, technical information of a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; and detailed illustrations. This may be accessed from the manufacturer.
- 4 Assessment
Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, service information, company and legislative requirements.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of removing and refitting automotive air conditioning system components.

Performance criteria

- 1.1 Components of an air conditioning system and their location on a vehicle are identified.
- 1.2 The precautions to take when removing and refitting air conditioning systems and their components are described.
- Range refrigerants, degassing, protection of the system from contaminants, disposal requirements, personal protection equipment.
- 1.3 Procedures for removing air conditioning system components are described.
- Range condenser, dryer, compressor, pipes, o-rings.
- 1.4 Procedures for refitting air conditioning system components are described.
- Range condenser, dryer, compressor, pipes, o-rings.
- 1.5 Required certification for working with air conditioning systems is identified.

Outcome 2

Demonstrate knowledge of removing and refitting automotive cooling system components.

Performance criteria

- 2.1 Components of a cooling system and their location on a vehicle are identified.
- 2.2 The precautions to take when removing and refitting cooling systems and their components are described.
- Range system temperature, coolant type, disposal requirements, personal protection equipment.
- 2.3 Procedures for removing cooling system components are described.
- Range radiator, overflow bottle, hoses, fastening systems.
- 2.4 Procedures for refitting cooling system components are described.
- Range radiator, overflow bottle, hoses, fastening systems.

Outcome 3

Demonstrate knowledge of removing and refitting automotive oil cooling system components.

Performance criteria

- 3.1 Components of an oil cooling system and their location on a vehicle are identified.
- 3.2 The precautions to take when removing and refitting oil cooling systems and their components are described.
- Range system temperature, capture of oil, disposal requirements, personal protection equipment.
- 3.3 Procedures for removing oil cooling system components are described.
- Range pipes, hoses, oil cooler.
- 3.4 Procedures for refitting oil cooling system components are described.
- Range pipes, hoses, oil cooler.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 August 2016	31 December 2027
Review	2	25 May 2023	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.