

Title	Demonstrate knowledge of automotive cooling systems and engine coolant		
Level	3	Credits	2

Purpose	This unit standard is for people in the motor industry. People credited with this unit standard are able to demonstrate knowledge of automotive cooling systems and engine coolant.
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Classification	Motor Industry > Engines
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements.
- 2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of the Health and Safety at Work Act 2015; and any subsequent amendments and replacements.
- 3 Definitions
Company requirements refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.
Service information may include – technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of automotive cooling systems.

Performance criteria

- 1.1 Method of heat transfer for an engine is described.
 Range radiation, conduction, convection.
- 1.2 The purpose of a cooling system is described.

1.3 The operation of a cooling system is described.

Range liquid, air.

1.4 Fan operation is described.

Range electric, hydraulic, pneumatic clutch, viscous drive.

1.5 Engine protection in the event of cooling system failure is described.

Outcome 2

Demonstrate knowledge of engine coolant.

Performance criteria

2.1 The reasons for using the correct coolant are described.

Range lubrication, cavitation, erosion, corrosion.

2.2 Testing coolant condition is described.

Range pH level, freeze protection.

Replacement information	This unit standard replaced unit standard 21686 and unit standard 24269.
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Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 October 2017	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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.