

Title	Demonstrate knowledge of automotive oscilloscope patterns and conducting a test programme on a four-stroke petrol engine		
Level	4	Credits	1

Purpose	<p>This theory-based unit standard is intended for people in the automotive repair industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: automotive oscilloscope patterns; and conducting a test programme on a four-stroke petrol engine using relevant test equipment.</p>
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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 and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 2 Performance of the outcomes of this unit standard must comply with the following:
Health and Safety at Work Act 2015;
Land Transport Rule: Vehicle Exhaust Emissions 2007;
Land Transport Rule: Vehicle Repair 1998.
- 3 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.
- 4 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.
Relevant test equipment may include stand-alone systems, vehicle manufacturer diagnostic tools, scan tools, analysers, digital storage equipment, and computer-based equipment.
Service information refers to technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Suitable tools and equipment refer to industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of automotive oscilloscope patterns.

Performance criteria

1.1 Normal ignition oscilloscope patterns are identified, and their phases are explained.

Range primary and secondary patterns.

1.2 The different types of display and their functions are described.

Outcome 2

Demonstrate knowledge of conducting a test programme on a four-stroke petrol engine using relevant test equipment.

Performance criteria

2.1 Procedures for connecting relevant test equipment to a vehicle are described.

2.2 Procedures for testing an engine using relevant test equipment are described.

Range includes but is not limited to – cranking and starter tests, battery capacity, charging, primary and secondary patterns, ignition timing, cylinder balance, idle speed, exhaust emissions, recording results.

Replacement information	This unit standard and unit standard 24273 replaced unit standard 886.
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Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 January 2008	31 December 2022
Review	2	29 April 2021	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.