

Title	Test for and rectify faults in electronically controlled systems used on a heavy vehicle or machine		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: test electronically controlled systems in a heavy vehicle or machine for faults; and rectify faults in electronically controlled systems in a heavy vehicle or machine.
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Classification	Motor Industry > Automotive Electrical and Electronics
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Available grade	Achieved
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Guidance Information

- 1 It is recommended that people hold credit for Unit 24131, *Demonstrate knowledge of electronic components and their application in the automotive industry* before being assessed against this unit standard.
- 2 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.
- 3 Performance of the outcomes of this unit standard must comply with the following: Health and Safety at Work Act 2015.
- 4 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.
- 5 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.
Heavy Vehicle refers to classes MD3, MD4, ME, NB, TC and TD as specified in the Vehicle equipment standards classifications at <https://www.nzta.govt.nz/vehicles/vehicle-types/vehicle-classes-and-standards/vehicle-classes/>; or has a gross vehicle mass that exceeds 3500kg and is not of a class specified in the Vehicle equipment standards classifications.
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 means 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.

6 Range

This unit standard may include but is not limited to electronically controlled systems fitted to – engines, transmissions, hydraulic equipment, brakes, self-levelling devices; evidence is required of a minimum of two systems.

7 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.

Outcomes and performance criteria

Outcome 1

Test electronically controlled systems in a heavy vehicle or machine for faults.

Performance criteria

- 1.1 The diagnostic test codes are activated, read and interpreted, and any faulty circuit identified.
- 1.2 The faulty circuit and its components are tested, and the fault positively identified and located.
- 1.3 A logical, systematic test procedure is followed to identify the faulty circuit and identify and locate the fault.

Outcome 2

Rectify faults in electronically controlled systems in a heavy vehicle or machine.

Performance criteria

- 2.1 Faults in electrical connections are rectified to restore good conductivity and protected against further corrosion.

Range cleaning by manufacturer approved methods, repair or replacement of connections, positioning and security of wiring and plugs.
- 2.2 Component faults are rectified by repair or replacement.

Range sensors, actuators, wiring, electronic control module (ECM).

Replacement information	This unit standard and unit standard 24131 replaced unit standard 15375.
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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	25 March 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.