

Title	Diagnose and rectify faults in engine braking systems and auxiliary braking systems on a heavy diesel vehicle		
Level	4	Credits	3

Purpose	<p>This unit standard is intended for people in the automotive repair industry.</p> <p>People credited with this unit standard are able to: diagnose and rectify faults in an exhaust braking system; and diagnose and rectify faults in an auxiliary braking system on a heavy diesel vehicle.</p>
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Classification	Motor Industry > Engines
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Available grade	Achieved
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Prerequisites	Appropriate driver licence for the vehicle being tested.
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Guidance Information

- 1 It is recommended that people hold credit for Unit 24283, *Demonstrate knowledge of diesel engine braking systems, exhaust braking systems, and diagnosing and rectifying faults* 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;
Land Transport Rule: Vehicle Repair 1998;
The Official New Zealand Road Code.
- 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.

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.

- 6 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

Diagnose and rectify faults in an exhaust braking system on a heavy diesel vehicle.

Performance criteria

- 1.1 The exhaust manifold is checked for security, cracks, and leaks, and any faults found are rectified.
- 1.2 The brake is activated, component operation is checked, and faults are rectified.
- Range includes but is not limited to – brake control circuit, brake control valve, clutch position, throttle position.
- 1.3 The vehicle is road tested to ensure the exhaust braking system functions.

Outcome 2

Diagnose and rectify faults in an auxiliary braking system on a heavy diesel vehicle.

Performance criteria

- 2.1 Auxiliary brake components are checked, and faults are rectified.
- Range may include but is not limited to – engine braking system; control valve, master piston, slave piston. hydraulic retarder system; control valves, rotor, stator, accumulator, oil pump, oil seals; electro-magnetic retarder system; control system, rotor, magnets.

- 2.2 Electrical components of an auxiliary brake system are tested for correct operation, and faults are rectified.

Range may include but is not limited to –
 engine auxiliary braking system; dash switch, fuel switch, clutch position sensor, solenoid;
 hydraulic retarder system; proportion valve, wiring harness, connectors, actuator switch, clutch position sensor, throttle position sensor;
 electromagnetic retarder; wiring harness, connectors, actuator switch, clutch position sensor, throttle position sensor.

- 2.3 The vehicle is road tested to ensure the auxiliary braking system functions.

Replacement information	This unit standard and unit standard 24283 replaced unit standard 2317.
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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.