

<b>Title</b>	<b>Demonstrate knowledge of diesel engine braking systems, exhaust braking systems, and diagnosing and rectifying faults</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	<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: engine and exhaust braking systems; diagnosing and rectifying faults in an exhaust braking system on a diesel engine vehicle; and diagnosing and rectifying faults in an engine braking system on a diesel engine vehicle.</p>
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<b>Classification</b>	Motor Industry > Engines
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<b>Available grade</b>	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 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.

*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.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of engine and exhaust braking systems.

#### Performance criteria

- 1.1 The operation of an exhaust braking system is described.
- 1.2 The operation of an engine braking system is described.
- 1.3 The amount of retarding power achieved by an exhaust braking system and an engine braking system is described.
- 1.4 The effect of electronic controls on an exhaust braking system and an engine braking system is described.

### Outcome 2

Demonstrate knowledge of diagnosing and rectifying faults in an exhaust braking system on a diesel engine vehicle.

#### Performance criteria

- 2.1 Suitable tools and equipment that enable faults to be diagnosed and rectified are identified.
- 2.2 Procedures for diagnosing faults in an exhaust braking system are described.  
  
Range includes but is not limited to – brake switch, brake valve, clutch switch, throttle switch, exhaust brake butterfly, noise suppressor butterfly, exhaust manifold checks.
- 2.3 Procedures to rectify exhaust braking system faults are identified.  
  
Range includes but is not limited to – brake switch, brake valve, clutch switch, throttle switch, exhaust brake butterfly, noise suppressor butterfly, exhaust manifold.

### Outcome 3

Demonstrate knowledge of diagnosing and rectifying faults in an engine braking system on a diesel engine vehicle.

#### Performance criteria

- 3.1 Suitable tools and equipment that enable faults to be diagnosed and rectified are identified.

3.2 Procedures for diagnosing and rectifying brake hydraulic component faults are described.

Range includes but is not limited to – control valve, master piston, slave piston.

3.3 Procedures for diagnosing and rectifying electrical component faults are described.

Range includes but is not limited to – dash switch, fuel switch, clutch switch, solenoid.

<b>Replacement information</b>	This unit standard and unit standard 24284 replaced unit standard 2317.
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<b>Planned review date</b>	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

<b>Consent and Moderation Requirements (CMR) reference</b>	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](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.