

Title	Service diesel engine braking systems and exhaust braking systems		
Level	4	Credits	4

Purpose	This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to: identify the operation of engine and exhaust braking systems; diagnose and rectify faults in an exhaust braking system; and diagnose and rectify faults in an engine braking system.
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Classification	Motor Industry > Engine Repairs
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Available grade	Achieved
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Entry information	
Critical health and safety prerequisites	Appropriate driver's licence for the vehicle being tested.

Explanatory notes

- 1 The following legislation, publication, and their amendments are required to be consulted and followed where applicable:
Health and Safety in Employment Act, 1992;
New Zealand Road Code, Land Transport Safety Authority.
- 2 Reference to *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 to a professional and competent manner with due regard to safe working practices.
- 3 Because of the particular nature of this unit standard, it is essential that the practical assessment evidence is obtained from commercial jobs in the workplace under normal workplace conditions.

This unit standard is expiring

Outcomes and evidence requirements

Outcome 1

Identify the operation of engine and exhaust braking systems.

Evidence requirements

- 1.1 The operation of an exhaust braking system is described according to manufacturer's specifications.
- 1.2 The operation of an engine braking system is described according to manufacturer's specifications.

Outcome 2

Diagnose and rectify faults in an exhaust braking system.

Evidence requirements

- 2.1 Safe working practices are observed throughout the task.

Range personal safety, safety of others, equipment and machine and/or vehicle safety.
- 2.2 Suitable tools and equipment are selected and used that enable faults to be diagnosed and rectified.
- 2.3 The exhaust manifold is checked for security, cracks, and leaks and any faults found are rectified.
- 2.4 The brake is activated and component operation is checked and adjusted to manufacturer's requirements.

Range brake switch, brake valve, clutch switch, throttle switch, exhaust brake butterfly, noise suppressor butterfly.
- 2.5 The brake is road tested for correct operation and the results are noted.

Outcome 3

Diagnose and rectify faults in an engine braking system.

Range one of: two-stroke diesel engine, four-stroke diesel engine.

Evidence requirements

- 3.1 Safe working practices are observed throughout the task.

Range personal safety, safety of others, equipment and machine and/or vehicle safety.

- 3.2 Suitable tools and equipment are selected and used that enable faults to be diagnosed and rectified.
- 3.3 The brake hydraulic components are checked and adjusted to the manufacturer's requirements.
- Range control valve, master piston, slave piston.
- 3.4 The electrical components are tested for correct operation and adjusted to the clearances specified by the manufacturer.
- Range dash switch, fuel switch, clutch switch, solenoid.
- 3.5 The vehicle is road tested to ensure the engine braking system functions according to manufacturer's specifications.

Replacement information	This unit standard has been replaced by unit standard 24283 and unit standard 24284.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 September 1994	31 December 2016
Review	2	21 February 1999	31 December 2016
Review	3	25 January 2008	31 December 2020
Rollover	4	19 November 2010	31 December 2020
Rollover	5	22 August 2014	31 December 2020

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>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is expiring