

<b>Title</b>	<b>Diagnose and rectify diesel engine shutdown system faults</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>3</b>

<b>Purpose</b>	<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 faults in an electrical and electronic diesel engine shutdown system; rectify electrical and electronic diesel engine shutdown system faults; and test and rectify mechanical diesel engine shutdown system faults.</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 It is recommended that people hold credit for Unit 24281, *Demonstrate knowledge of testing and rectifying diesel engine shutdown system 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.
- 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.

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## Outcomes and performance criteria

### Outcome 1

Diagnose faults in an electrical and electronic diesel engine shutdown system.

#### Performance criteria

- 1.1 The type of electrical and electronic diesel engine shutdown system is determined by reference to service information.
- 1.2 Engine sensors are tested for operation, and results are noted.  
  
Range sensors include but are not limited to – oil pressure, coolant temperature, over-speed.
- 1.3 The actuator is tested for operation using an external power source, and results noted.
- 1.4 The wiring and connectors are tested for electrical faults, and any faults found are noted.

### Outcome 2

Rectify electrical and electronic diesel engine shutdown system faults.

#### Performance criteria

- 2.1 A faulty sensor is restored to full serviceability by adjusting or replacing the unit.
- 2.2 A faulty actuator is restored to full serviceability by repairing or replacing the unit.
- 2.3 Any wiring defects are repaired, and the system is tested for operation.

### Outcome 3

Test and rectify mechanical diesel engine shutdown system faults.

#### Performance criteria

- 3.1 The mechanical diesel engine shutdown system is tested, and the engine speed at shutdown is noted.
- 3.2 The actuator trip speed is adjusted.

- 3.3 The actuator operation is tested, and results are noted.
- Range actuator operation includes but is not limited to – coolant temperature, oil pressure.
- 3.4 Faulty supplementary actuators and sensors are rectified by repairing or replacing the units.
- 3.5 The mechanical diesel engine shutdown system is tested for operation.

<b>Replacement information</b>	This unit standard and unit standard 24281 replaced unit standard 971.
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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.