

## Inspect and test diesel engine intake and exhaust systems

**Level** 3

**Credits** 4

**Purpose** This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to inspect and test the induction system on a diesel engine for faults, and inspect and test the exhaust system on a diesel engine for faults.

**Subfield** Motor Industry

**Domain** Automotive Fuel Systems and Exhaust

**Status** Registered

**Status date** 25 January 2008

**Date version published** 25 January 2008

**Planned review date** 31 December 2012

**Entry information** Recommended: Unit 24179, *Demonstrate knowledge of a forced air intake system on an engine*, or demonstrate equivalent knowledge and skills.

**Replacement information** This unit standard, unit standard 24178, and unit standard 24179 replaced unit standard 930 and unit standard 15404.

**Accreditation** Evaluation of documentation and visit by NZQA and industry.

**Standard setting body (SSB)** NZ Motor Industry Training Organisation (Incorporated)

**Accreditation and Moderation Action Plan (AMAP) reference** 0014

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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### Special notes

- 1 Legislation relevant to this unit standard includes but is not limited to – Health and Safety in Employment Act 1992; Land Transport Rules: Heavy Vehicles 2004, Rule 31002; Vehicle Repair 1998, Rule 34001.
- 2 Land Transport Rules are produced for the Minister of Transport by Land Transport New Zealand. These rules are available online at <http://www.landtransport.govt.nz/rules/>.

3 Definitions

*Service information* may include but is not limited to – technical information of a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; and detailed illustrations. This can be accessed in hard copy or electronic format and is normally sourced from the manufacturer.

*Suitable tools and test equipment* means industry approved tools and test 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.

4 Range

This unit standard includes either – two stroke diesel engines or four stroke diesel engines.

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

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## Elements and performance criteria

### Element 1

Inspect and test the induction system on a diesel engine for faults.

#### Performance criteria

1.1 Safe working practices are observed throughout the task in accordance with legislative requirements.

Range personal safety, safety of others, vehicle or machine safety, workshop safety, environmental safety, tools and equipment safety.

1.2 Suitable tools and test equipment are selected in accordance with service information, and used to enable the system to be inspected and tested.

1.3 Test equipment is mounted on the engine, to enable inlet system restrictions to be identified, in accordance with service information.

1.4 Air pressure readings are measured and the results recorded in accordance with service information.

1.5 Induction system is inspected in accordance with service information, and any faults found are reported to the supervisor.

Range may include but is not limited to – turbocharger, scoop, prefilters, filters, pipework, elements, hoses, clamps, mounts.

## Element 2

Inspect and test the exhaust system on a diesel engine for faults.

### Performance criteria

- 2.1 Safe working practices are observed throughout the task in accordance with legislative requirements.
- Range personal safety, safety of others, vehicle or machine safety, workshop safety, environmental safety, tools and equipment safety.
- 2.2 Suitable tools and test equipment are selected and used to enable the system to be inspected and tested in accordance with service information.
- 2.3 Test equipment is mounted on the engine to enable exhaust system restrictions to be identified in accordance with service information.
- 2.4 Exhaust system is inspected and tested in accordance with service information, and any faults found are reported to the supervisor.
- Range may include but is not limited to – flanges, pipework, mufflers, spark arrestors, exhaust brake, mountings, wastegate and actuator linkage, manifold connections.
- 2.5 Exhaust system faults and their causes are identified by test gauge readings in accordance with service information.

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### Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP 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.

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### Comments on this unit standard

Please contact the NZ Motor Industry Training Organisation (Incorporated) [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.