

## Demonstrate knowledge of heavy machine and equipment suspension systems, and diagnosing system failure

**Level** 3

**Credits** 3

**Purpose** This theory-based unit standard is for people in the automotive heavy repair industry. People credited with this unit standard are able to demonstrate knowledge of heavy machine and equipment suspension systems, and diagnosing heavy machine and equipment suspension system failure.

**Subfield** Motor Industry

**Domain** Vehicle Steering and Suspension

**Status** Registered

**Status date** 25 January 2008

**Date version published** 25 January 2008

**Planned review date** 31 December 2012

**Entry information** Open.

**Replacement information** This unit standard and unit standard 24435 replaced unit standard 2330.

**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 Rule: 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 Definition  
*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.

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## Elements and performance criteria

### Element 1

Demonstrate knowledge of heavy machine and equipment suspension systems.

#### Performance criteria

- 1.1 Heavy machine and equipment suspension systems are described in accordance with service information.
- Range includes but is not limited to – rigid suspension, semi-rigid suspension, flexible suspension, gas suspension, track frame suspension.
- 1.2 Characteristics of heavy machine and equipment suspension systems are described in accordance with service information.
- Range includes but is not limited to – steering, weight distribution, load carrying, traction, traversing rough terrain.
- 1.3 Procedures for inspecting suspension systems are described in accordance with service information and legislative requirements.
- Range includes but is not limited to – springs, trunnions, beams, bearings, bushes, bolts, rivets, welds.
- 1.4 Causes of suspension failure are described in accordance with service information.
- Range includes but is not limited to – wear, fracture, cracks, bending, misalignment, security.

## Element 2

Demonstrate knowledge of diagnosing heavy machine and equipment suspension system failure.

### Performance criteria

2.1 Procedures for identifying faulty components in the suspension system are identified in accordance with service information.

Range includes but is not limited to – springs, mountings, struts, ball joints, bushes, bolts, rivets, pins; wear, cracks, fractures, bends, sag, security; road test for handling – noise, ride quality, suspension reaction control.

2.2 Probable causes of suspension failure are described in accordance with service information.

Range includes but is not limited to – overloading, improper loading or weight distribution, improper handling, contributing mechanical causes.

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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.