

Title	Describe heavy equipment suspension systems, and analyse and repair faults in them		
Level	4	Credits	6

Purpose	This unit standard is for people in the automotive heavy repair industry. People credited with this unit standard are able to: demonstrate knowledge of heavy equipment suspension systems; identify and analyse heavy equipment suspension component failure; and repair heavy equipment suspension components.
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Classification	Motor Industry > Vehicle Steering and Suspension
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Available grade	Achieved
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Explanatory notes

- 1 The following legislation and amendments are required to be consulted and followed where applicable:
 - Health and Safety in Employment Act, 1992.
- 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.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of heavy equipment suspension systems.

Evidence requirements

- 1.1 Equipment suspension systems are described according to manufacturer’s workshop manual descriptions.

Range	rigid suspension, semi-rigid suspension, flexible suspension, gas suspension, track frame suspension.
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1.2 Characteristics of machine suspension systems are described according to manufacturer's specifications.

Range steering, weight distribution, load carrying, traction, traversing rough terrain.

Outcome 2

Identify and analyse heavy equipment suspension component failure.

Evidence requirements

2.1 Safe working practices are observed throughout the task.

Range personal safety, safety of others, equipment safety.

2.2 Suitable tools and equipment are selected and used that enable component faults to be identified.

2.3 The suspension is inspected according to workshop manual instructions, and the faulty component(s) are identified.

Range springs, trunnions, beams, bearings, bushes, bolts, rivets, welds; wear, fracture, cracks, bending, misalignment, security.

2.4 The causes of the suspension failure are analysed and conclusions reached are recorded.

2.5 A repair procedure recommendation is made based on an analysis of the suspension failure.

Outcome 3

Repair heavy equipment suspension components.

Evidence requirements

3.1 Safe working practices are observed throughout the task.

Range personal safety, safety of others, equipment safety.

3.2 Suitable tools and equipment are selected and used that enable the repair procedures to be carried out.

3.3 Faulty component(s) are returned to full serviceability according to the manufacturer's repair procedures, and a recommendation is made to rectify any contributory causes.

Range replace with approved replacement parts, repair, adjust.

3.4 The suspension system is lubricated as required by the manufacturer, and checked for height adjustment and operation as specified by the manufacturer.

Replacement information	This unit standard has been replaced by unit standard 24434 and unit standard 24435.
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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 2016
Rollover	4	19 November 2010	31 December 2016
Rollover	5	18 February 2016	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, 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 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.

Consent requirements 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.