Test and repair hydraulic brake system components on heavy vehicles or machines

Level 4  
Credits 3  

Purpose This unit standard is for people in the automotive heavy repair industry. People credited with this unit standard are able to test hydraulic brake systems on heavy vehicles or machines, and repair hydraulic brake system components.

Subfield Motor Industry  
Domain Vehicle Braking Systems  
Status Registered  
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Entry information Recommended: Unit 24420, Demonstrate knowledge of hydraulic brakes and testing hydraulic brakes on heavy vehicles or machines, or demonstrate equivalent knowledge and skills.

Replacement information This unit standard and unit standard 24420 replaced unit standard 15478.

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.

Special notes  
1 Legislation and publications relevant to this unit standard include but are not limited to – Health and Safety in Employment Act 1992; Land Transport Rules: Heavy-vehicle Brakes 2006, Rule 32015 (incorporates the Heavy Vehicle Brake Code); Heavy Vehicles 2004, Rule 31002; Vehicle Standards Compliance 2002, Rule 35001/1; Vehicle Inspection Requirements Manual (VIRM) – In-service Certification.
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/. The VIRM is published by Land Transport New Zealand and is available online at http://www.landtransport.govt.nz/certifiers/virm-in-service/index.html.

3 Definitions

**Company requirements** refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications, and legislative requirements.

**Heavy vehicle** refers to a motor vehicle that is of Class MD3, MD4, ME, NB, NC, TC or TD; or has a gross vehicle mass that exceeds 3500 kg and is not of a class specified in the Table of vehicle classes as listed from Land Transport New Zealand website http://www.landtransport.govt.nz/publications/infosheets/infosheet-1-10.html#classes.

**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 equipment** means 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.

4 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**

Test hydraulic brake systems on heavy vehicles or machines.

**Performance criteria**

1.1 Suitable tools and equipment are selected and used to enable the braking system to be tested in accordance with service information and legislative requirements.

1.2 Safety precautions are taken when testing hydraulic brakes in accordance with service information and legislative requirements.

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

1.3 An air-over-hydraulic brake system is tested and compared to manufacturer specifications and compliance with the Land Transport Rule: Heavy-vehicle Brakes and the VIRM.
1.4 Any remedial work necessary to correct deficiencies is identified and a recommendation report given to the supervisor in accordance with company requirements.

**Element 2**

Repair hydraulic brake system components.

**Performance criteria**

2.1 Suitable tools and equipment are selected and used to enable the braking system components to be repaired in accordance with service information.

2.2 Safety precautions are taken when repairing hydraulic brake components in accordance with service information and legislative requirements.

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

2.3 Brake lines are repaired or replaced in accordance with service information.

    Range hydraulic brake pipe, pneumatic brake pipe.

2.4 Air-over-hydraulic brake system components are repaired in accordance with service information and legislative requirements.

    Range foot valve, master cylinder, wheel cylinder, brake calliper.

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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 if you wish to suggest changes to the content of this unit standard.