

Diagnose four-wheel drive (4WD) or all-wheel drive (AWD) system faults on light vehicles

Level 4

Credits 2

Purpose This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to diagnose 4WD or AWD system faults on light vehicles.

Subfield Motor Industry

Domain Automotive Transmission Systems

Status Registered

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Entry information Prerequisite: Class 1 driver licence.

Recommended: Unit 24325, *Demonstrate knowledge of four-wheel drive (4WD) and all-wheel drive (AWD) systems used on light vehicles*, or demonstrate equivalent knowledge and skills.

Replacement information This unit standard, unit standard 24325, and unit standard 24327 replaced unit standard 8185.

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 Rule: Vehicle Repair 1998, Rule 34001; *The Official New Zealand Road Code*, Land Transport New Zealand.

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/>. New Zealand Road Code information can be obtained from the following website <http://www.landtransport.govt.nz/roadcode>.

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.

Light vehicle refers to classes as listed from Land Transport New Zealand website table <http://www.landtransport.govt.nz/publications/infosheets/infosheet-1-10.html#classes>: passenger vehicle MA, MB, MC; omnibus MD, MD1, MD2; and goods vehicle NA.

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. Vehicle manufacturers use various terms for 4WD. Many vehicles are offered with a combination of the systems outlined in this unit standard. For the purpose of this unit standard, *4WD* refers to either part time or full time, and *AWD* refers to full time symmetric or automatic asymmetric systems.

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

Elements and performance criteria

Element 1

Diagnose 4WD or AWD system faults on light vehicles.

Performance criteria

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

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

1.2 Suitable tools and equipment are selected and used that enable faults to be diagnosed in accordance with service information.

1.3 Details of the fault are obtained from the customer and noted in accordance with company requirements.

- 1.4 Service information is obtained that will enable reference to manufacturer settings and specifications as an aid to diagnosis.
- 1.5 A visual check is carried out on the system, and any defects noted, in accordance with service information.
- Range includes but is not limited to – oil leaks, damage, loose fittings, oil appearance and condition.
- 1.6 Diagnostic tests are carried out in, and any abnormal readings or functions noted, in accordance with service information.
- 1.7 The vehicle is operated, and the nature of any faults determined, in accordance with service information.
- 1.8 The test results are analysed in accordance with service information, to determine the probable causes of any faults found.

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.

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.