

Diagnose faults in automatic transmissions on light vehicles

Level 4

Credits 3

Purpose This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to diagnose faults in automatic transmissions 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 919, *Demonstrate knowledge of light vehicle automatic transmission components and fault diagnosis procedures*, or demonstrate equivalent knowledge and skills.

Replacement information This unit standard and unit standard 24690 replaced unit standard 958, unit standard 15421, and unit standard 15422.

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; *The Official New Zealand Road Code*, Land Transport New Zealand.

- 2 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.
- 4 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.
- 5 Before commencing diagnostic tests on vehicles with an automatic transmission, the engine tune must be tested to ensure that it complies with manufacturer specifications.
- 6 The stall test in performance criterion 1.9 should only be conducted on a vehicle where service information indicates that it is possible.

Elements and performance criteria

Element 1

Diagnose faults in automatic transmissions on light vehicles.

Performance criteria

- 1.1 Safe working and driving 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 Transmission test data is obtained in order to perform tests in accordance with service information.

Range may include but is not limited to – shift points, fluid pressures, lockup clutch, model specified items, fluid type.

- 1.3 The results of the tests on an automatic transmission are recorded on a suitable test report sheet in accordance with company requirements.
- 1.4 The electrical test procedures for electronically controlled transmissions are carried out in accordance with service information.
- 1.5 Suitable tools and equipment are selected and used to enable transmission tests to be carried out in accordance with service information.
- 1.6 The transmission fluid is checked to ensure that its level is to specification, and its condition determined in the manner prescribed by the manufacturer.
- Range condition – normal, black and smelly, pink and frothy, varnish-like deposits on the dipstick.
- 1.7 The vehicle is operated in compliance with the Road Code and in accordance with a set test schedule, and the results are noted.
- Range includes but is not limited to – upshift points at light and full throttle, throttle and kickdown induced downshifts, manual shifting of the gears, reverse gear operation, engine braking.
- 1.8 Fluid pressure tests are conducted, and the pressures in all ranges at idle and stall speeds recorded, in accordance with service information.
- 1.9 A stall test is conducted in conjunction with the pressure test, and the results noted, in accordance with service information.
- 1.10 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.