
**AUTOMOTIVE TRANSMISSION
SYSTEMS**
**Demonstrate knowledge of automotive
manual transmissions**

level:	2
credit:	2
planned review date:	December 2009
sub-field:	Motor Industry
purpose:	This theory-based unit standard is for people who wish to enter or are employed in the automotive repair industry. People credited with this unit standard are able to demonstrate knowledge of manual clutch operation, and a manual transmission.
entry information:	Open.
accreditation option:	Evaluation of documentation by NZQA and industry.
moderation option:	A centrally established and directed national moderation system has been set up by the NZ Motor Industry Training Organisation.
special notes:	<p>Information on automotive manual transmissions can be found from:</p> <p>training provider, industry and/or manufacturer's courses; vehicle workshop manuals; automotive mechanical textbooks (contact your local book retailer, school or polytechnic library or the public library lending service); useful websites include but are not limited to:</p> <ul style="list-style-type: none">– Automotive Books Ltd http://www.autobooks.co.nz;– Capital Books http://www.capitalbooks.co.nz;– How Stuff Works http://www.howstuffworks.com;– New Zealand Book Find http://www.nzbookfind.com;– public libraries http://www.libraries.co.nz;– Technical Books http://www.techbooks.co.nz;– Whitcoulls http://www.whitcoulls.co.nz.

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Elements and Performance Criteria

element 1

Demonstrate knowledge of manual clutch operation.

Range: single plate, multi-plate.

performance criteria

- 1.1 Components of a clutch assembly and its system are described according to the vehicle and/or machine manufacturer's manual descriptions.
- 1.2 Functions of a clutch are described according to the vehicle and/or machine manufacturer's manual descriptions.
- 1.3 The reasons why clutch adjustments to manufacturer's specifications are necessary are described according to the vehicle and/or machine manufacturer's manual description.

element 2

Demonstrate knowledge of a manual transmission.

Range: inline, transverse, motorcycle.

performance criteria

- 2.1 The components and general layout of a manual transmission are described according to the vehicle and/or machine manufacturer's manual descriptions.
- 2.2 The purpose of the transmission and the relationship between the input and output speeds and torques, are described according to the vehicle and/or machine manufacturer's specifications and workshop manual descriptions.

Comments on this unit standard

Please contact the NZ Motor Industry Training Organisation jlane@mito.org.nz if you wish to suggest changes to the content of this unit standard.

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Please Note

Providers must be accredited by the Qualifications Authority or a delegated inter-institutional body before they can register credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority 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 providers wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is covered by AMAP 0014 which can be accessed at <http://www.nzqa.govt.nz/site/framework/search.html>.