
AUTOMOTIVE ADMINISTRATION
Demonstrate knowledge of, and
recommend, automotive component
corrosion prevention requirements

level:	5
credit:	7
final date for comment:	December 2008
expiry date:	December 2009
sub-field:	Motor Industry
purpose:	People credited with this unit standard are able to demonstrate knowledge of: corrosion types and effects; corrosion inhibitor and protection devices; procedures to take to protect automotive components from the effects of corrosion; and to recommend corrosion prevention requirements.
entry information:	Open.
accreditation option:	Evaluation of documentation and visit 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:	<ol style="list-style-type: none">1 The following legislation must be consulted where applicable: Land Transport Rule: Vehicle Repair 1998, Rule 34001; Land Transport Rule: Frontal Impact 2001, Rule 32006/1; Transport (Vehicle Standards) Regulations 1990.2 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.

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Elements and Performance Criteria

element 1

Demonstrate knowledge of corrosion types and effects.

performance criteria

- 1.1 Types of corrosion affecting automotive components are described according to the vehicle, machine, and/or the component manufacturers' service information.
- Range: galvanic, electrolytic, oxidation.
- 1.2 Causes and effects of corrosion on automotive components are described according to the vehicle, machine, vessel, and/or the component manufacturers' service information.
- Range: general wastage, pitting, velocity effects including cavitation, selective dezincification, stress corrosion and hydrogen embrittlement, corrosion fatigue.
- 1.3 The appearance of corrosion on automotive components is identified.
- Range: ferrous and non-ferrous metals.

element 2

Demonstrate knowledge of corrosion inhibitor and protection devices.

performance criteria

- 2.1 The characteristics of engine cooling system inhibitors are described according to the manufacturers' specifications.
- Range: changes in temperature, composition of corrosion inhibitors, deposit reduction, compatibility, performance life.

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- 2.2 The principle of sacrificial protection and its application is described as applied to the vehicle, machine, and engine componentry.
- 2.3 The use of compatible metals of similar galvanic series and the insulation requirements of dissimilar metals are identified where such metals are in contact with each other.
- 2.4 The use of protective primer, paint, and sealer on automotive components is explained according to the manufacturers' specifications.

element 3

Demonstrate knowledge of procedures to take to protect automotive components from the effects of corrosion.

performance criteria

- 3.1 The importance of following the vehicle, machine, and/or the engine manufacturers' specifications regarding coolant inhibitor is identified.
- Range: protection to engine components, cooling system performance.
- 3.2 The purpose of applying protection treatment to the vehicle and machine body components before and after assembly and/or repairs is identified.
- Range: reinstatement of manufacturer's protection, avoidance of corrosion, job standards, component life.
- 3.3 The storage requirements to combat corrosion of automotive components are identified.
- Range: sealed packages, lubrication, protective coatings, storage environment.

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element 4

Recommend corrosion prevention requirements.

performance criteria

- 4.1 The need for corrosion protection is identified according to the type of material affected, surrounding environment, intended use, and legislative requirements.
- Range: may include but is not limited to – vehicle, machine and/or vessel exterior and interior components, panels, and structures.
- 4.2 Procedures to prevent corrosion are identified.
- Range: may include but is not limited to – vehicle, machine and/or vessel specifications, corrosion prevention material manufacturers' specifications, repair manuals.
- 4.3 Written recommendations are made to management on the corrosion prevention measures required to protect the vehicle, machine and/or the vessel components, panels, and structures.
- Range: may include but is not limited to – components affected, measures to take, specifications required, degree of protection, costs (labour and material), on-going service requirements, adherence to legislation.

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.

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.

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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>.