Title	**Demonstrate knowledge of vehicle bodywork construction**		
Level	**4**	**Credits**	**6**

Purpose	This theory-based unit standard is for people who work in the motor industry. People credited with this unit standard are able to demonstrate knowledge of: vehicle body construction characteristics; body materials used on vehicles; body sealers and adhesives; and body protection treatments.

Classification	Motor Industry > Vehicle Bodywork

Available grade	Achieved

Explanatory notes

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, service information, company and legislative requirements (this includes the knowledge and/or use of suitable tools and equipment).

2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of including updated amendments to, and replacements of – Health and Safety at Work Act 2015; Land Transport Rules.

3 Land Transport Rules are available online at https://www.nzta.govt.nz/.

4 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.
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 may be accessed 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.

Outcomes and evidence requirements

Outcome 1

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Demonstrate knowledge of vehicle body construction characteristics.

Evidence requirements

1.1 The purpose of a vehicle body is described.

Range safety protection of occupants, comfort, weather protection, physical, structural.

1.2 Body shell construction methods are described.

Range the assembly of box sections and panels by – spot welding, oxy-acetylene welding, gas metal arc welding (GMAW), MIG welding, gas metal arc (GMA) brazing, bolts, construction adhesives, rivets, hemmed, clinched.

1.3 The purpose of jigs and body dimensions and specifications are described.

Range assembly, safety, standards, repairs.

1.4 Vehicle manufacturer occupant and pedestrian protection safety features are identified in relation to vehicle body crash energy management and design.

1.5 Panel attachment methods are described.

Range adhesive, bolt on.

1.6 The purpose of water channelling, air ducting, and air flow entry and exit are described.

Range corrosion protection, occupant comfort.

Outcome 2

Demonstrate knowledge of body materials used on vehicles.

Range may include but is not limited to – mild steel, stainless steel, high tensile steel grade types, aluminium alloy, laminated steel, plastic-synthetic resins, fibre reinforced plastics, glass, plastic-metal hybrid, magnesium.

Evidence requirements

2.1 The location of body material types on a vehicle is identified.

2.2 The reasons for using different materials on a vehicles body is described.

Range may include but is not limited to – strength of vehicle, corrosion resistance, occupant safety, repair, cosmetic, protection of panels, energy absorption capability.

2.3 The identification of materials is described in accordance with material coding stamp markings.

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Outcome 3

Demonstrate knowledge of body sealers and adhesives.

Evidence requirements

3.1 The use of wax injection is identified.

Range corrosion protection on initial construction, replacement after repair.

3.2 The purpose and application of sealers, sealants, and adhesives to body components are explained.

Range pliable types, rubber, urethane;
body integrity – water and dust entry, exhaust and engine fumes, corrosion protection, prevention of moisture entrapment, non-conductive and conductive, acoustic properties.

Outcome 4

Demonstrate knowledge of body protection treatments.

Range galvanising panels, phosphate treatment, electroplating, primer, colour coats, wax coating.

Evidence requirements

4.1 The purpose of applying protection treatment to vehicle bodies before and after assembly is described.

4.2 The protection treatment processes, and how they are applied during the vehicle assembly line process, are identified.

4.3 Action taken to reinstate protection coating after damage is explained.

Planned review date	31 December 2021

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 October 1993	31 December 2018
Review	2	4 October 1996	31 December 2018
Review	3	26 February 1999	31 December 2018
Review	4	25 February 2008	31 December 2018
Review	5	21 April 2016	N/A

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Process	Version	Date	Last Date for Assessment
Review	6	8 December 2016	N/A

Consent and Moderation Requirements (CMR) reference	0014

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Please note
Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR 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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.

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