



Australian Government

AURVNA007 Apply automotive mechanical and electrical knowledge to vehicle loss assessments

Release: 1

AURVNA007 Apply automotive mechanical and electrical knowledge to vehicle loss assessments

Modification History

Release	Comment
Release 1	New unit of competency

Application

This unit describes the performance outcomes required to apply automotive mechanical and electrical knowledge to identify mechanical and electrical damage resulting from a vehicular accident.

It applies to those applying specialist automotive knowledge to a vehicle loss assessment in the loss assessment environment. Loss assessment may relate to light vehicles, commercial vehicles, heavy vehicles, agricultural and plant equipment, recreational vehicles and motorcycles.

Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

Competency Field

Vehicle Body

Unit Sector

Loss Assessment and Repair Quoting

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section
1. Develop and apply an understanding of automotive mechanical knowledge	1.1 Knowledge of the operating principles of <i>suspension and steering systems, brake systems, transmission and driveline assembly</i> , and <i>engine and fuel systems</i> is developed 1.2 Knowledge of suspension and steering systems, brake systems, transmission and driveline assembly, and engine and fuel systems

ELEMENTS	PERFORMANCE CRITERIA
	is applied to loss assessment processes, procedures and policies 1.3 Mechanical damage is identified
2. Develop and apply an understanding of automotive electrical knowledge	2.1 Knowledge of the operating principles of electrical and electronic systems is developed 2.2 Knowledge of electrical and electronic systems is applied to loss assessment processes, procedures and policies 2.3 Electrical damage is identified
3. Develop and apply an understanding of advanced specialist vehicle knowledge	3.1 Knowledge of specific vehicle types is developed, clarified where necessary, and applied to loss assessment processes, procedures and policies 3.2 Knowledge of latest technology relating to automotive mechanical and electrical systems is developed, clarified where necessary, and applied to loss assessment processes, procedures and policies 3.3 Research techniques and advanced specialist knowledge are employed to identify vehicle damage

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Reading skills to:	• apply loss assessment processes, procedures and policies • research, interpret and apply automotive mechanical, electrical and advanced specialist vehicle knowledge.
Oral Communication skills to:	• engage with repairers and specialist providers.
Numeracy skills to:	• interpret technical measurements.
Digital Literacy skills to:	• use communication devices and computerised equipment to research advanced specialist vehicle information.
Problem Solving skills to:	• clarify problems relating to: • brake systems • engine and fuel systems • electrical and electronic systems • latest automotive technology • specific vehicle types

	• suspension and steering systems • transmission and driveline assembly • clarify knowledge of specific vehicle types and latest technology relating to automotive mechanical and electrical problems.
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Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Suspension and steering systems</i> must include at least two of the following:	• dependant suspension • double wishbone suspension • independent suspension • McPherson strut suspension.
<i>Brake systems</i> must include at least two of the following:	• air braking system • anti-lock braking system (ABS) • autonomous braking system • hydraulic braking system • stability control.
<i>Transmission and driveline assembly</i> must include:	• automatic and manual transmission • clutch assembly • driveline • final drive assembly.
<i>Engine and fuel systems</i> must include:	• cooling system • emission control system • engine components • fuel system.
<i>Electrical and electronic systems</i> must include:	• batteries • charging systems • electrical circuits • electronic body management systems • electronic drive management systems • electronic spark ignition engine management system • ignition systems • lights • starting systems • vehicle sensors.
<i>Latest technology</i> must	• battery electric vehicle • hybrid vehicle.

include:	
Research techniques must include:	• internet • reference material, including: • original equipment manufacturer (OEM) or authorised agencies repair guides • repair guides • workshop manuals • subject matter experts.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURVNA007 Apply automotive mechanical and electrical knowledge to vehicle loss assessments

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria and foundation skills:

- apply automotive mechanical and electrical knowledge to vehicle loss assessment processes, procedures and policies
- apply latest automotive technology knowledge and knowledge of specific vehicle types to vehicle loss assessment processes, procedures and policies
- identify vehicle mechanical and electrical damage.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- motor vehicle:
 - mechanical systems and components:
 - damage and faults
 - dismantling and repair methods
 - operating principles of electrical and electronic systems and components, including:
 - damage and faults
 - dismantling and repair methods
 - operating principles of mechanical systems and components, including:
 - brake systems
 - engine and fuel systems
 - suspension and steering systems
 - transmission and driveline assembly
- technical knowledge relating to a specific vehicle type, including light vehicles, heavy vehicles, agricultural and plant equipment, recreational vehicles and motorcycles

- technical knowledge of latest technology relating to mechanical, electrical and electronic motor vehicle repair, including repair of battery electric vehicles (BEV) and hybrid vehicles
- vehicle inspection and damage assessment procedures and methodologies, including repair set-ups and dismantling procedures
- current assessing and quoting methodologies
- relevant automotive websites to locate current best practice and future trends information
- methods of sourcing OEM or authorised agencies repair procedures, component supplier specifications and repair guides
- applicable commonwealth, state or territory laws, regulations and standards relating to vehicle loss assessment and reporting requirements, including:
 - environmental regulations
 - intellectual property
 - legislation
 - applicable Workplace Health and Safety Act or Occupational Health and Safety Act
- workplace policies and procedures relating to vehicle loss assessment and reporting requirements, including:
 - recording and reporting procedures
 - use of digital images.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third party evidence, individuals must provide evidence that links them to the vehicles that they have assessed, e.g. assessment reports.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- a range of vehicles with mechanical and electrical damage
- relevant information including OEM or authorised agencies repair procedures, component supplier specifications and repair guides
- relevant materials and resources.

Links

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