



Australian Government

AURVNA4007 Apply automotive mechanical and electrical knowledge to vehicle loss assessment

Release 2

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Modification History

Release	Comment
Release 2	Replaces AURVNA4007 Apply automotive mechanical and electrical knowledge to vehicle loss assessment (Release 1) Reference to OHS legislation replaced with new WHS legislation

Unit Descriptor

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

Application of the unit	Work involves 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.
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Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop and apply an understanding of automotive mechanical knowledge	1.1. Knowledge of the operating principles of suspension and steering systems, brake systems, transmission and driveline assembly, and engine and fuel systems is developed 1.2. Knowledge of suspension and steering systems, brake systems, transmission and driveline assembly, and engine and fuel systems 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

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- technical skills to identify mechanical and electrical vehicle damage
- communication skills to engage with repairers and specialist providers
- literacy skills to:
 - apply loss assessment processes, procedures and policies
 - research, interpret and apply automotive mechanical, electrical and advanced specialist vehicle knowledge
- numeracy skills to interpret technical measurements
- 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
- technology skills to use communication devices and computerised equipment to research advanced specialist vehicle information

Required knowledge

- technical 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 boats, 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
- general insurance industry knowledge, including relevant sections of:
 - Competition and Consumer Act
 - contract and insurance law
 - copyright law
 - Insurance Contracts Act
 - intellectual property
 - Motor Vehicle Insurance and Repair Industry Code of Conduct
 - personal legal liability
 - privacy law
 - State or Territory Fair Trading Act
- methods of sourcing manufacturer and component supplier specifications, including workshop manuals and repair guides
- applicable commonwealth, state or territory laws, regulations and standards relating to vehicle loss assessment and reporting requirements, including:
 - environmental regulations
 - legislation
 - Workplace Health and Safety (WHS) Act
- workplace policies and procedures relating to vehicle loss assessment and reporting requirements, including:
 - quality requirements
 - recording and reporting procedures

Evidence Guide

Evidence Guide	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy all of the requirements of the performance criteria and required skills and knowledge. A person who demonstrates competency in this unit must be able to: • apply automotive mechanical and electrical knowledge to loss assessment processes, procedures and policies • apply latest automotive technology knowledge and knowledge of specific vehicle types to loss assessment processes, procedures and policies • identify mechanical and electrical damage.
Context of, and specific resources for assessment	Competency is to be assessed in the workplace or a simulated workplace environment that accurately reflects performance in a real workplace setting. Assessment is to occur: • using standard workplace practices and procedures • following safety requirements • applying environmental constraints. Assessment is to comply with relevant: • regulatory requirements • Australian standards • industry codes of practice. The following resources must be made available for the assessment of this unit: • a range of vehicles with mechanical and electrical damage • relevant information including manufacturer and component supplier specifications, workshop manuals and repair guides • relevant materials, resources and safety equipment • relevant WHS materials including workshop WHS

Evidence Guide	
	procedures.
Method of assessment	Assessment must satisfy the endorsed Assessment Guidelines of this Training Package. Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with the application of required skills and knowledge. Assessment methods must be by direct observation of tasks and include questioning on required skills and knowledge to ensure correct interpretation and application. Competence in this unit may be assessed in conjunction with other units which together form part of a holistic work role. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate the needs of diverse clients. Assessment processes and techniques must be culturally sensitive and appropriate to the language, literacy and numeracy capacity of the candidate and the work being performed.

Range Statement

Range Statement	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
<i>Suspension and steering systems</i> may include:	• dependant suspension • double wishbone suspension • independent suspension • McPherson strut suspension.
<i>Brake systems</i> may include:	• anti-lock braking systems (ABS) • hydraulic braking systems • stability control.
<i>Transmission and driveline assembly</i> may include:	• automatic and manual transmission • clutch assembly • driveline • final drive assembly.
<i>Engine and fuel systems</i> may include:	• cooling system • emission control system • engine components.
<i>Electrical and electronic systems</i> may 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> may include:	• battery electric vehicle • hybrid electric vehicle.

Range Statement	
Research techniques may include:	• internet • reference material including: • workshop manuals • repair guides • subject matter experts.

Unit Sector(s)

Competency field	Vehicle Body
Sector	Loss Assessment or Repair Quoting

Custom Content Section

Not applicable.