



Australian Government

AURVNA107 Apply automotive mechanical and electrical knowledge to vehicle loss assessments

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Application

This unit describes the skills and knowledge required to identify mechanical and electrical damage resulting from a vehicle accident.

The unit 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.

Unit Sector

Vehicle Body Loss Assessment and Repair Quoting

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Develop and apply an understanding of automotive mechanical knowledge	1.1 Employ research techniques, including discussions with customers and supervisors, and advanced specialist knowledge to identify vehicle mechanical damage 1.2 Develop knowledge of the operating principles of suspension and steering systems, brake systems, transmission and driveline assembly, and engine and fuel systems 1.3 Apply knowledge of suspension and steering systems, brake systems, transmission and driveline assembly, and engine and fuel systems to loss assessment processes, procedures and policies

ELEMENTS	PERFORMANCE CRITERIA
2. Develop and apply an understanding of automotive electrical knowledge	2.1 Develop knowledge of the operating principles of electrical and electronic systems 2.2 Apply knowledge of electrical and electronic systems to loss assessment processes, procedures and policies 2.3 Identify electrical damage
3. Develop and apply an understanding of advanced specialist vehicle knowledge	3.1 Develop knowledge of specific vehicle types, clarify where required, and apply to loss assessment processes, procedures and policies 3.2 Develop knowledge of latest technology relating to automotive mechanical and electrical systems, clarify where required, and apply to loss assessment processes, procedures and policies

Foundation Skills

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

SKILL	DESCRIPTION
Learning	Locates required sources of information efficiently.
Numeracy	Interprets technical measurements.
Oral communication	Engages with repairers and specialist providers.
Reading	- Applies loss assessment processes, procedures and policies - Identifies, interprets and applies automotive mechanical, electrical and advanced specialist vehicle knowledge.
Problem solving	- Clarifies 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 - Clarifies knowledge of specific vehicle types and latest technology relating to automotive mechanical and electrical problems.

Unit Mapping Information

Supersedes and is equivalent to AURVNA007 Apply automotive mechanical and electrical knowledge to vehicle loss assessments.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for AURVNA107 Apply automotive mechanical and electrical knowledge to vehicle loss assessments

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- undertake each of the following on at least one occasion:
 - 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

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret information required to apply automotive mechanical and electrical knowledge to vehicle loss assessments, including:
 - information provided by customer and supervisors
 - manufacturer specifications and procedures or equivalent documentation
 - workshop manuals
 - subject matter experts
- workplace procedures required to apply automotive mechanical and electrical knowledge to vehicle loss assessments, including:
 - documentation, recording and reporting procedures
 - use of digital images
- motor vehicle mechanical systems and components, including:
 - damage and faults
 - dismantling and repair methods
- motor vehicle operating principles of electrical and electronic systems and components, including:

- damage and faults
- dismantling and repair methods
- batteries and charging systems
- electrical circuits
- electronic body and drive management systems
- electronic spark ignition engine management system
- ignition systems
- starting systems
- lights and vehicle sensors
- motor vehicle operating principles of mechanical systems and components, including:
 - brake systems, including:
 - air braking system
 - anti-lock braking system (ABS)
 - autonomous braking system
 - hydraulic braking system
 - stability control
 - engine and fuel systems, including:
 - cooling system
 - emission control system
 - engine components
 - fuel system
 - suspension and steering systems, including:
 - dependant suspension
 - independent wishbone suspension
 - double wishbone suspension
 - McPherson strut suspension
 - transmission and driveline assembly, including:
 - automatic and manual transmission
 - clutch assembly
 - driveline
 - final drive 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

- 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.

Assessment Conditions

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

Assessment must include direct observation of tasks.

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.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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