



Australian Government

AURTTA118 Develop and carry out diagnostic test strategies

Release: 1

AURTTA118 Develop and carry out diagnostic test strategies

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 develop and carry out a diagnostic testing strategy on vehicles, vessels or machinery. It involves confirming the existence of a fault, identifying the required diagnostic information, developing a diagnostic strategy, applying the diagnostic strategy, and reporting conclusions.

The unit applies to those who work in the automotive service and repair industry.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Unit Sector

Mechanical Miscellaneous – Technical

Elements and Performance Criteria

ELEMENT	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 diagnostic testing strategy	1.1 Identify job requirements from workplace instructions 1.2 Confirm existence of fault according to workplace procedures 1.3 Identify systems and components to be tested 1.4 Obtain and interpret information required to develop diagnostic testing strategy 1.5 Develop testing strategy to identify cause of fault 1.6 Identify hazards and environmental issues associated with diagnose and repair activity, assess potential risks and implement control measures in line with workplace policies and procedures
2. Diagnose faults	2.1 Identify tools and equipment required for testing strategy

ELEMENT	PERFORMANCE CRITERIA
	and establish serviceability according to workplace procedures 2.2 Identify cause of fault through analysis of diagnostic test results. 2.3 Confirm and report cause of fault according to workplace procedures 2.4 Develop and report recommendations for necessary repairs according to workplace procedures
3. Complete work processes	3.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for use 3.2 Clear work area and dispose of or recycle materials according to workplace procedures 3.3 Complete documentation according to workplace procedures

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 - Develops a sequenced plan for a specific task - Applies diagnostic procedures to different vehicles or machinery - Interprets diagnostic test results and comments on usefulness of outputs in determining cause of fault
Reading	Researches, organises and interprets technical information from manufacturer and workshop literature when seeking specifications and procedures
Oral communication	- Clarifies instructions - Obtains information from customers and/or supervisors - Reports diagnostic findings
Numeracy	Measures components and uses basic mathematical operations, including addition and subtraction, to calculate tolerances and deviations from manufacturer specifications
Planning and organising	- Plans own work requirements - Prioritises and sequences actions to achieve required outcomes - Ensures tasks are completed within workplace timeframes

SKILL	DESCRIPTION
Technology	• Uses precision measuring equipment • Uses specialised diagnostic equipment

Unit Mapping Information

Supersedes and is equivalent to AURTTA018 Carry out diagnostic procedures.

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 AURTTA118 Develop and carry out diagnostic test strategies

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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:

- diagnose faults in three different vehicles or machinery, in which the work must involve:
 - using manufacturer specifications, workplace procedures and information obtained from the customer to develop a diagnostic testing strategy
 - using the diagnostic testing strategy to identify the cause of three of the following faults:
 - loss of vehicle power
 - excessive fuel consumption
 - excessive emissions
 - poor handling
 - poor hydraulic system performance
 - poor pneumatic system performance
 - incorrect mechanical system performance
 - incorrect electrical system performance
 - vibration
 - abnormal noise
- recording the diagnostic procedures followed with the above vehicles or machinery, the cause or causes of faults and the recommended repairs.

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 of gathering information, including:
 - questioning customers
 - effective questioning techniques
 - research techniques

- workplace procedures relating to diagnosing faults, including:
 - establishing serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment
 - disposal of excess materials
 - recycling procedures
- benefits of following a strategy-based diagnostic procedure
- methods to locate and interpret information required to develop a diagnostic testing strategy, including:
 - customer complaint
 - manufacturer specifications and procedures, including:
 - flow charts
 - diagnosis charts
 - vehicle systems data, including the outputs of diagnostic scan tools
 - inspection of vehicle
- work health and safety (WHS) policies and procedures relating to carrying out diagnostic procedures, including procedures for working safely with the system being tested
- environmental requirements relating to carrying out diagnostic procedures, including procedures for complying with requirements specific to the system being tested
- key features and limitations of common diagnostic tools
- methods of differentiating between fault symptoms and fault causes.

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 or machinery in which they have diagnosed faults, e.g. repair orders.

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

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions detailing customer fault complaint
- manufacturer vehicle or machinery specifications
- three different vehicles or machinery with system faults specified in the performance evidence

- tools, equipment and materials required for diagnosing system faults.

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

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