



Australian Government

AURTTA018 Carry out diagnostic procedures

Release: 1

AURTTA018 Carry out diagnostic procedures

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to carry out diagnostic procedures on vehicles, vessels or machinery. It involves confirming the existence of a fault, choosing the appropriate diagnostic procedure and tools, applying the diagnostic procedure, and reporting conclusions.

It applies to those working in the automotive service and repair industry.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical

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 and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to diagnose faults	1.1 Job requirements are determined from workplace instructions and existence of fault is confirmed according to workshop procedures 1.2 Information, including customer complaint, is sourced and analysed and systems and components to be tested are identified 1.3 Testing strategy is developed to most efficiently find the faults 1.4 Hazards associated with the work are identified and risks are

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	managed according to workplace procedures and <i>safety and environmental requirements</i> 1.5 Diagnostic tools and equipment are selected and checked for serviceability
2. Diagnose faults	2.1 Diagnostic tools and equipment are applied according to manufacturer specifications, workplace procedures and safety requirements 2.2 Diagnostic tests are carried out without causing damage to diagnostic tools and equipment or vehicle systems or components 2.3 Identification of faults is confirmed from test results and reported according to workplace procedures 2.4 Faulty components are examined and <i>cause of faults</i> is determined, including recommendations for repair
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace expectations and vehicle or machinery is presented ready to be repaired or returned to the customer 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

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
Learning skills to:	- locate appropriate sources of information efficiently - apply diagnostic procedures to different vehicles or machinery.
Reading skills to:	research, organise and interpret technical information from manufacturer and workshop literature when seeking specifications and procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting diagnostic findings, making repair recommendations.

Skills	Description
Oral communication skills to:	clarify instructions, obtain information from customers and supervisors, and report diagnostic findings.
Numeracy skills to:	measure components and use basic mathematical operations, including addition and subtraction, to calculate tolerances and deviations from manufacturer specifications.
Planning and organising skills to:	plan own work requirements and prioritise and sequence actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	- use precision measuring equipment, such as micrometers and vernier calipers - use specialised diagnostic equipment, such as scan tools.

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>Safety and environmental requirements</i> must include:	- work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for working safely with the system being tested - environmental requirements, including procedures for complying with requirements specific to the system being tested.
<i>Cause of faults</i> must include:	determining the reason the fault developed.

Unit Mapping Information

Equivalent to AURTTA3018 Carry out diagnostic procedures

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 AURTTA018 Carry out diagnostic procedures

Modification History

Release	Comment
Release 1	New unit of competency.

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, range of conditions and foundation skills:

- follow workplace diagnostic procedures to diagnose faults in three different vehicles or machinery
- the above diagnosis work must involve two of the following types of 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
- record the diagnostic procedures followed with the above vehicles or machinery and identify the cause or causes of faults.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to carrying out diagnostic procedures, including procedures for working safely with the system being tested

- environmental requirements, including procedures for complying with requirements specific to the system being tested
- methods of gathering information, including questioning customers and effective questioning techniques
- types and applications of diagnostic strategies, including:
 - strategy-based diagnostics
 - flow charts
 - diagnosis charts
- types, applications, limitations and operation of common diagnostic tools
- methods of differentiating between fault symptoms and fault causes.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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.

Links

Companion Volume implementation guides are found in VETNet -

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

Companion Volume implementation guides are found in VETNet -

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