



**Australian Government**

**Assessment Requirements for AURTTL111  
Diagnose complex faults in CNG fuel  
systems**

**Release: 1**

# Assessment Requirements for AURTTL111 Diagnose complex faults in CNG fuel systems

## Modification History

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

## 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 a complex fault in at least three different compressed natural gas (CNG) systems
- the above diagnoses must involve at least two of the following types of complex faults:
  - an intermittent fault
  - a fault that affects more than one system
  - a fault introduced as a result of a system repair
  - an indirect fault caused by the influence of external systems.

## 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 diagnose complex faults in CNG fuel systems, including:
  - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose complex faults in CNG fuel systems, 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

- work health and safety (WHS) requirements relating to diagnosing complex faults in CNG fuel systems, including procedures for working with lighter-than-air flammable gas
- environmental requirements, including procedures for preventing loss of gas to atmosphere
- types of complex faults relating to CNG fuel systems, including:
  - intermittent
  - multi-system
  - introduced as a result of system repair
  - indirect, caused by the influence of external systems
- types and key features of CNG fuel systems, including:
  - fuel lock-offs
  - injectors
  - mixers
  - metering units
- requirements of AS/NZS 2739 Natural gas (NG) fuel systems for vehicle engines
- testing procedures for CNG fuel systems, including:
  - component failure analysis
  - safety component operation
  - electrical control systems
  - exhaust emissions
  - on-road fuel efficiency
  - data interpretation
- types and key features of diagnostic testing equipment required to diagnose complex faults in CNG fuel systems
- procedures for accessing and interpreting scan tool system data, including:
  - diagnostic trouble codes (DTCs), including:
    - conditions that set the DTCs
    - conditions for running DTCs
  - live data
  - freeze frame data
  - waveforms
  - vehicle continuous and non-continuous monitored systems
- methods and processes for documenting and reporting diagnostic findings and recommendations.

## 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 CNG fuel systems that they have worked on, 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
- AS/NZS 2739 Natural gas (NG) fuel systems for vehicle engines
- manufacturer CNG fuel system specifications
- three different CNG fuel systems with complex faults
- CNG fuel system diagnostic equipment, including scan tool
- tools, equipment and materials appropriate for diagnosing complex faults in CNG fuel systems.

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

## **Links**

Companion Volume Implementation Guide is found on VETNet -

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