



Australian Government

Assessment Requirements for AURLTF001 Diagnose and repair light vehicle mechanical fuel injection systems

Release: 1

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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:

- diagnose and repair a fault in three mechanical fuel injection system components as follows:
 - one fuel distributor
 - two of the following:
 - fuel injector
 - fuel pressure regulator
 - fuel pump and filter
 - fuel accumulator.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to diagnosing and repairing mechanical fuel injection systems, including procedures for working with high pressure petrol fuel systems
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from fuel systems
- operating principles of mechanical fuel injection systems and associated components, including carburation
- application, purpose and operation of mechanical fuel injection systems and components, including:
 - fuel supply, including:
 - high and low pressure system

- electric fuel pump
- fuel accumulator
- fuel metering, including:
 - air-flow sensor
 - fuel distributor
 - differential pressure valves
 - fuel injectors
- cold-start enrichment and warm-up enrichment, including:
 - cold-start valve
 - thermo-time switch
 - warm-up regulator
 - auxiliary air device
- full load enrichment
- diagnostic testing procedures for mechanical fuel injection systems, including procedures for:
 - testing injectors, including:
 - opening pressure
 - leakage integrity
 - spray shape
 - chatter
 - testing system pressure, including:
 - primary system pressure
 - control pressure
 - analysing exhaust gas
- repair procedures for mechanical fuel injection systems, including procedures for removing, replacing and injection pump timing mechanical fuel injection systems
- post-repair testing procedures for mechanical fuel injection systems.

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 mechanical fuel injection 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
- manufacturer mechanical fuel injection system specifications
- vehicles with faults in the mechanical fuel injection system components specified in the performance evidence
- diagnostic equipment for mechanical fuel injection systems, including exhaust gas analyser
- tools, equipment and materials appropriate for repairing mechanical fuel injection systems.

Links

Companion Volume implementation guides are found in VETNet -

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

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