



Australian Government

Assessment Requirements for AURLTF101 Diagnose and repair light vehicle mechanical fuel injection systems

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

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 and repair a fault in three mechanical fuel injection system components, including:
 - at least one fuel distributor
 - at least two of the following:
 - fuel injector
 - fuel pressure regulator
 - fuel pump and filter
 - fuel accumulator
- carry out a diagnostic test in the course of the above for at least one of the following faults:
 - low system pressure
 - leaking injectors
 - low fuel pump volume.

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 and repair light vehicle mechanical fuel injection systems, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair light vehicle mechanical fuel injection 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
- workplace health and safety (WHS) requirements relating to diagnosing and repairing light vehicle mechanical fuel injection systems, including procedures for working with high pressure petrol fuel systems
- environmental requirements relating to diagnosing and repairing light vehicle mechanical fuel injection systems, including procedures for trapping, storing and disposing of fluids released from fuel system
- operating principles of light vehicle mechanical fuel injection systems, including carburation
- purpose and operation of light vehicle 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 light vehicle mechanical fuel injection systems, including procedures for:
 - cold-start enrichment inspection
 - testing injectors, including:
 - opening pressure
 - leakage integrity
 - spray shape
 - chatter
 - testing system pressure, including:

- primary system pressure
- control pressure
- analysing exhaust gas, including cold and hot engine exhaust gas analysis.
- repair procedures for light vehicle mechanical fuel injection systems, including procedures for removing, replacing and injection pump timing mechanical fuel injection systems
- post-repair testing procedures for light vehicle mechanical fuel injection systems.

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 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.

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>