



Australian Government

Assessment Requirements for AURLTF102 Diagnose and repair light vehicle diesel 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 two different light vehicles with diesel engines, over the course of which the work must involve:
 - removing, refitting and timing a diesel high pressure pump
 - removing, refitting and testing injectors
 - bleeding a diesel fuel injection system
 - removing and refitting a low pressure fuel pump
- carry out a diagnostic test in the course of the above for at least one of the following faults:
 - low fuel pump pressure
 - leaking injectors.

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 diesel 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 diesel 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 diesel fuel injection systems, including procedures for working with high pressure fuel systems
- environmental requirements relating to diagnosing and repairing light vehicle diesel fuel injection systems, including procedures for trapping, storing and disposing of fluids released from fuel system
- operating principles of light vehicle diesel fuel injection systems, including:
 - phases of combustion
 - composition of diesel fuel, including cetane and sulphur content
- purpose and operation of light vehicle diesel fuel injection systems and components, including:
 - high pressure injection pump systems
 - distributor pumps, including axial and radial types
 - in-line injection pump systems
 - mechanically controlled unit type systems
- diagnostic testing procedures for light vehicle diesel fuel injection systems, including procedures for:
 - assessing exhaust smoke
 - testing low fuel pressure pump
 - testing injector opening pressure and spray pattern
 - testing injector for back leakage and nozzle leakage
 - assessing and testing air induction system
 - assessing and testing engine performance
- repair procedures for light vehicle diesel fuel injection systems, including procedures for:
 - dismantling, cleaning, adjusting and reassembling conventional and two-spring injectors
 - removing, installing and timing high pressure injection pumps
 - bleeding fuel systems
- post-repair testing procedures for light vehicle diesel fuel injection systems, including assessing:
 - system leakage
 - engine performance.

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 light vehicle diesel 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 light vehicle diesel fuel injection specifications
- two different light vehicles with diesel engines with faults
- diagnostic equipment for diesel fuel injection systems
- tools, equipment and materials appropriate for repairing diesel 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>