



Australian Government

**Assessment Requirements for AURHTF002
Diagnose and repair heavy vehicle diesel
fuel injection systems**

Release: 1

Assessment Requirements for AURHTF002 Diagnose and repair heavy vehicle diesel fuel injection systems

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 two different heavy vehicle diesel fuel injection systems, completing the following with each system:
 - testing the low pressure fuel supply
 - removing and refitting a low pressure fuel pump
 - removing, refitting and timing a diesel high pressure pump
 - removing, refitting and testing injectors
 - bleeding a diesel fuel injection system.

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 vehicle diesel fuel injection systems, including procedures for:
 - working with:
 - high fuel pressures
 - stored fuel pressures
 - high voltage diesel fuel injectors
 - engine start-up and shut-down
- environmental requirements, including procedures for trapping, storing and disposing of diesel fuel released from injection systems
- operating principles of diesel fuel injection systems and associated components, including:
 - phases of combustion

- composition of diesel fuel
- application, purpose and operation of diesel fuel injection systems and components, including:
 - low pressure fuel supply systems, including:
 - fuel pumps
 - filters and separators
 - high pressure diesel fuel injection systems, including:
 - distributor type injection pumps
 - in-line injection pumps
 - electronic unit injection (EUI)
 - hydraulic electronic unit injection (HEUI)
 - high pressure injection (HPI)
 - injectors
- diagnostic testing procedures for diesel fuel injection systems, including:
 - assessing exhaust smoke
 - testing low pressure fuel systems
 - testing injector opening pressure, back leakage, nozzle leakage and spray pattern
 - assessing air induction systems
 - measuring individual cylinder exhaust temperature to determine underperforming cylinders
- repair procedures for diesel fuel injection systems, including procedures for:
 - dismantling, cleaning, adjusting and reassembling conventional injectors
 - removing, installing and timing high pressure injection pumps
 - adjusting and tuning mechanical unit injection systems
 - bleeding fuel systems
- post-repair testing procedures for diesel fuel injection systems, including procedures for:
 - checking fuel system leakage
 - assessing engine performance.

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 heavy 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 heavy vehicle diesel fuel injection system specifications
- two different heavy vehicles with faults in their diesel fuel injection systems
- diagnostic equipment for diesel fuel injection systems
- tools, equipment and materials appropriate for repairing and adjusting heavy vehicle diesel fuel injection systems.

Links

Companion Volume implementation guides are found in VETNet -

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

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