Australian Government

Assessment Requirements for AURMTF002 Analyse and repair performance fuel injection systems

Release: 1

Assessment Requirements for AURMTF002 Analyse and repair performance 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:

- analyse and repair faults in the performance of the fuel injection systems of three different competition vehicles, including:
  - two of the following faults:
    - rough running
    - under or over fuelling
    - contamination or leaks
  - one of the following faults:
    - fuel cell ventilation
    - pumps
    - pressure and/or flow regulation
- conduct post-repair checks on the above fuel systems.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to analysing and repairing performance fuel injection systems, including procedures for working with petrol fuel systems
- environmental requirements, including procedures for trapping, storing and disposing of petrol fuel released during repair or testing
- types, function, operation and limitations of fuel injection systems and components, including:

- properties of fuels used in the motor sport industry, including compatibility with fuel injection system components
- fuel injection system components, including:
  - air intake systems
  - fuel delivery systems, including fuel rails
  - fuel filters
  - fuel pumps
  - fuel surge tanks
  - adjustable fuel pressure regulators
- fuel injectors, including peak-and-hold and saturated injectors:
  - fuel rails
  - fuel filters
  - fuel pumps
  - fuel surge tanks
  - adjustable fuel pressure regulators
- management systems, including:
  - pressure and temperature sensors
  - electronic control units
- diagnostic testing procedures of performance fuel injection systems, including:
  - symptom and cause differentiation
  - mapping fuel delivery
  - fuel trim and live data
  - fuel pump pressure, volume and vacuum testing
  - testing for air leaks
  - scan tool and data gathering
  - cold-start enrichment testing
  - exhaust gas analysis
- procedures for repair and improvement of performance fuel injection systems, including fuel system component removal, replacement or repair, and adjustment procedures
- post-repair testing procedures of performance 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 performance fuel injection systems they have analysed and repaired, e.g. work order.

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 specifications for vehicle performance fuel injection systems
- three different competition vehicles with faults in their performance fuel injection systems
- diagnostic equipment for performance fuel injection systems, including:
  - exhaust gas analyser
  - scan tool or data logger
- tools, equipment and materials appropriate for analysing and repairing performance 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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