



Australian Government

Assessment Requirements for AURETR044 Diagnose and repair integrated engine and transmission management 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 standard defined in the unit's elements and performance criteria, range of conditions and foundation skills:

- diagnose and repair a fault in the integrated engine and transmission management systems of two different vehicles or machinery, in which the work must involve removing, refitting or replacing a system component that affects the operation of both the engine and the transmission management 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 integrated engine and transmission management systems, including procedures for:
 - using specialised tools and equipment
 - using appropriate personal protective equipment (PPE)
 - identifying hazards and controlling risks associated with:
 - working on vehicle high voltage ignition systems
 - wearing jewellery while working around high current wiring systems
- integrated engine and transmission management system principles, including:
 - engine and transmission management system topography, inputs and outputs
 - typical vehicle or machinery systems equipped with engine and transmission management systems
- application, purpose and operation of integrated engine and transmission management systems and components, including:
 - control modules

- control sensors and actuators
- communication systems, including controlled area network data bus (CAN-bus)
- diagnostic testing procedures for integrated engine and transmission management systems, including:
 - accessing and interpreting scan tool system data, including:
 - diagnostic trouble codes (DTCs)
 - live data
 - freeze frame data
 - waveforms
 - using diagnostic flow charts
 - testing electrical systems, including procedures for:
 - accessing electrical terminals and using test probes without damaging connectors, fuse holders or wiring
 - resistance and voltage drop tests
 - open and short circuit tests
 - checking shorts to signal, power circuits and grounds
- repair procedures for integrated engine and transmission management systems, including procedures for removing and replacing system components
- post-repair testing procedures, including:
 - DTC clearing procedures
 - static and dynamic performance tests.

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 integrated engine and transmission management 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 specifications for engine and transmission management systems
- two different vehicles or machinery with integrated engine and transmission management system faults
- diagnostic equipment for integrated engine and transmission management systems, including:

- multimeter
- scan tool
- tools, equipment and materials appropriate for repairing vehicle engine and transmission management 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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