



Australian Government

**Assessment Requirements for AURETR144
Diagnose and repair integrated engine and
transmission management systems**

Release: 1

Assessment Requirements for AURETR144 Diagnose and repair integrated engine and transmission management systems

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 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

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 integrated engine and transmission management systems, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair integrated engine and transmission management 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 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
- environmental requirements relating to diagnosing and repairing integrated engine and transmission management systems
- 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
- 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
- key features 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).

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 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.

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>