



**Australian Government**

# **Assessment Requirements for AURETR036**

## **Diagnose and repair electronically controlled suspension systems**

**Release: 1**

# Assessment Requirements for AURETR036 Diagnose and repair electronically controlled suspension 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 standard defined in the unit's elements and performance criteria, range of conditions and foundation skills:

- diagnose and repair a fault in the following electronically controlled suspension system components of two different vehicles or machinery:
  - ride height sensor circuits
  - wheel speed sensor circuits
  - steering rate sensor circuits
  - ride height control relay circuits
  - air compressor motor control circuits
  - air spring fill-vent solenoid control valve circuits
- remove, refit or replace either a solenoid actuated shock absorber or a load sensing shock absorber from an electronically controlled suspension system in one of the above vehicles or machinery, and retest the 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 electronically controlled suspension systems, including procedures for:
  - using specialised tools and equipment
  - using appropriate personal protective equipment (PPE)
  - identifying hazards and controlling risks associated with:
    - working with stored energy in springs and torsion bars, including procedures for removing tension from suspension components

- manual handling heavy suspension system components
- electronically controlled suspension system principles, including:
  - vehicle ride and handling
  - typical vehicle or machinery equipped with electronically controlled suspension systems
- application, purpose and operation of electronically controlled suspension systems and components, including:
  - adaptive suspension control module
  - control sensors and actuators
  - suspension control module functions, including:
    - control of air spring settings
    - shock damper settings
    - air compressor operation
- diagnostic testing procedures for electronically controlled suspension 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 electronically controlled suspension systems, including procedures for removing and replacing system components
- post-repair testing procedures for electronically controlled suspension systems, including:
  - DTC clearing procedures
  - static and dynamic performance tests of suspension system.

## 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 electronically controlled suspension 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 electronically controlled suspension systems
- two different vehicles or machinery with faults in their electronically controlled suspension systems
- diagnostic equipment for electronically controlled suspension systems, including:
  - multimeter
  - scan tool
- tools, equipment and materials appropriate for repairing electronically controlled suspension 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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