Australian Government

Assessment Requirements for AURETR136 Diagnose and repair electronically controlled suspension systems

Release: 1

Assessment Requirements for AURETR136 Diagnose and repair electronically controlled suspension systems

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

The candidate must demonstrate they can perform the following according to the standards defined in the elements, performance criteria and foundation skills of this unit.

The candidate must demonstrate a diagnosis and repair of electronically controlled suspension systems that safely follows workplace procedures to meet required outcomes. This includes:

- diagnosis and repair of a fault within 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
- diagnosis and repair of one electronically controlled steering system in which the work must include removing, refitting or replacing and re-testing one of the following components:
  - solenoid actuated shock absorber
  - load sensing shock absorber
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Knowledge Evidence

The candidate must demonstrate the following knowledge:

Key policies and procedures relating to the diagnosis, testing and repair of electronically controlled suspension systems including:

- how to locate and interpret manufacturers specifications or equivalent documentation and workplace procedures for the diagnosis and repair of electronically controlled suspension systems
- the following workplace health and safety requirements for diagnosis and repair of electronically controlled suspension systems:

    - procedures for using specialised tools and equipment
    - knowledge of the appropriate personal protective equipment (PPE)
    - identifying hazards and controlling risks associated with working with stored energy in springs and torsion bars
    - procedures for removing tension from suspension components
    - identifying hazards and controlling risks associated with manual handling heavy suspension system components
- environmental procedures for diagnosis, testing and repair of electronically controlled suspension systems
- the following diagnostic testing procedures for electronically controlled suspension systems:
    - accessing and interpreting scan tool system data, including:
        - diagnostic trouble codes (DTCs)
        - live data
        - freeze frame data
        - waveforms
    - using diagnostic flow charts
- the following electrical systems testing procedures:
    - accessing electrical terminals
    - using test probes without damaging connectors, fuse holders or wiring
    - undertaking resistance tests
    - undertaking voltage drop tests
    - testing open circuits
    - testing short circuits
    - checking shorts to signal, power circuits and grounds
- the following repair procedures for electronically controlled suspension systems:
    - removing and replacing system components
- the following post-repair testing procedures for electronically controlled suspension systems:
    - DTC clearing procedures
    - static and dynamic performance tests of suspension system
- workplace housekeeping and documentation procedures

Electronically controlled suspension system information, including:

- the operating principles of:
    - vehicle ride and handling
    - typical vehicle or machinery equipped with electronically controlled suspension systems
- the purpose and operation of the following electronically controlled suspension systems and components:

  - adaptive suspension control module
  - control sensors and actuators
- the purpose and operation of the following suspension control module functions within electronically controlled suspension systems:
  - control of air spring settings
  - shock damper settings
  - air compressor operation
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Assessment Conditions

Mandatory conditions for the assessment of this unit are stipulated below.

The assessment must:

- include access to:
  - automotive repair workplace or simulated workplace that reflects workplace conditions - where simulation is used, it must reflect real working conditions by modelling industry operating conditions and contingencies, as well as, using suitable facilities, equipment and resources
  - repair orders and workplace instructions relating to diagnosis and repair activity
  - workplace procedures relating to diagnosis and repair activity
  - manufacturer electronically controlled suspension systems specifications and procedures of equivalent documentation to complete diagnose and repair activity
  - two different vehicles or machinery with faults in the electronically controlled suspension system components specified in the performance evidence
  - diagnostic equipment for electronically controlled steering systems, including:
    - multimeter
    - scan tool
  - tools, equipment and materials suitable for repairing electronically controlled suspension systems of vehicle and machinery
- be demonstrated in the workplace or in a simulated environment that reflects workplace conditions
- be conducted in a safe environment
- be assessed in compliance with relevant policies, processes and operational manuals directly related to the industry sector for which it is being assessed
- confirm consistent performance can be applied in a range of relevant workplace circumstances

Assessor requirements

Assessors of this unit must:

- satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards

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Links

Companion Volume Implementation Guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1