Australian Government

Assessment Requirements for AURKTR001 Diagnose and repair electronic over hydraulic control systems

Release: 1

Assessment Requirements for AURKTR001 Diagnose and repair electronic over hydraulic control 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:

- diagnose and repair a fault in electronic over hydraulic control system components as follows:
  - all four of the following:
    - hydraulic proportional control solenoids (flow, pressure and directional)
    - joysticks, potentiometer or touchscreens
    - sensors and feedback devices
    - electronic control amplifier units
  - one of the following:
    - electronic over hydraulic circuitry
    - servo control valves (flow, pressure and directional)
    - electronic control unit (ECU).

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 electronic over hydraulic control systems, including procedures for:
  - working with high pressure fluid hazards
  - isolating and stabilising machines
- operating principles of electronic over hydraulic systems and associated components, including operating principles of flow, pressure and directional control in:
  - electronic open loop circuits

  - electronic semi open loop circuits
  - electronic closed loop circuits
- application, purpose and operation of electronic over hydraulic control systems and components, including:
  - hydraulic proportional control solenoids
  - servo control units
  - sensors
  - feedback devices
  - electronic control amplifier units
  - joysticks
  - electronic control units
  - electronic over hydraulic circuitry
- diagnostic testing procedures for electronic over hydraulic control systems, including:
  - electronic system analysis while using industry-relevant test equipment
  - component wear analysis
  - system operation analysis
- procedures for inspecting and evaluating the following components:
  - proportional control valves
  - servo control units
  - electronic control units
  - sensors
  - feedback devices
- repair procedures for electronic over hydraulic control systems, including procedures for:
  - testing electronic devices
  - replacing electronic devices and adjusting the following:
    - maximum and minimum flow points
    - dither
    - opening ramps
    - closing ramps
- post-repair testing procedures for electronic over hydraulic control 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 electronic over hydraulic control 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 electronic over hydraulic control system specifications
- two different electronic over hydraulic control systems with faults as specified in the performance evidence
- diagnostic equipment for electronic over hydraulic control systems
- tools, equipment and materials appropriate for repairing and adjusting mobile plant electronic over hydraulic control 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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