



Australian Government

Assessment Requirements for AURKTA109

Diagnose complex faults in mobile plant hydraulic systems

Release: 1

Assessment Requirements for AURKTA109 Diagnose complex faults in mobile plant hydraulic 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 a complex fault in the hydraulic systems of three different mobile plant machinery
- develop a testing strategy in the course of the above work to diagnose the cause of at least two of the following complex faults:
 - an intermittent fault
 - a fault that affects more than one system
 - a fault introduced as a result of a system repair
 - an indirect fault caused by the influence of external systems.

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 complex faults in mobile plant hydraulic systems, including:
 - heavy commercial vehicle hydraulic system manufacturer specifications
 - requirements of Australian Standard 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- workplace procedures required to diagnose complex faults in mobile plant hydraulic systems, including:
 - establishing the 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

- safe disposal of materials
 - recycling procedures
- workplace health and safety (WHS) requirements relating to diagnosing complex faults in mobile plant hydraulic systems, including procedures for:
 - managing stored energy in springs and accumulators
 - working with high pressure fluid hazards
 - tagging out and isolating machines, and wheel chocking
- environmental requirements, including procedures for trapping, storing and disposing of hazardous materials and substances released from hydraulic systems
- types of complex faults relating to mobile plant hydraulic systems, including:
 - intermittent
 - multi-system
 - introduced as a result of system repair
 - indirect, caused by the influence of external systems
- types, functions and operation of mobile plant hydraulic systems, including:
 - reservoirs
 - accumulators
 - pumps
 - valves
 - actuators
 - motors
 - filters
 - conductors and connectors
- testing procedures for mobile plant hydraulic systems, including procedures for:
 - abnormal noise analysis
 - implement creep
 - oil flow and pressure testing
 - excessive internal leakage in both actuators and pumps
 - component failure analysis
- types, functions, operation and limitations of diagnostic testing equipment required to diagnose complex faults in mobile plant hydraulic systems, including:
 - scan tool
 - oil pressure gauge
 - temperature measuring equipment
 - flow meter
- procedures for accessing and interpreting scan tool system data, including:
 - diagnostic trouble codes (DTCs), including:
 - conditions that set the DTCs
 - conditions for running DTCs
 - live data

- waveforms
- vehicle continuous and non-continuous monitored systems.

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 mobile plant hydraulic 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 mobile plant hydraulic system specifications
- hydraulic systems of three different mobile plant machinery with complex faults
- mobile plant hydraulic system diagnostic equipment, including:
 - scan tool
 - flow meter
 - oil pressure gauge
 - temperature measuring equipment
- AS 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- tools, equipment and materials appropriate for diagnosing complex faults in mobile plant hydraulic 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>