



Australian Government

Assessment Requirements for AURKTA011 Diagnose and repair mobile plant hydraulic systems

Release: 1

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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 this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose and repair a fault in the hydraulic systems of two different mobile plant or agricultural machinery, and:
 - remove, refit or replace two different types of hydraulic valves
 - remove, refit or replace one hydraulic cylinder
- in the course of the above work, undertake two the following:
 - rebuild hydraulic cylinder
 - rebuild motor or pump
 - remove, refit or replace hose
 - remove, refit or replace pump
 - remove, refit or replace motor
 - remove, refit or replace accumulator.

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 mobile plant hydraulic systems, including procedures for:
 - using raising, lowering and supporting equipment
 - isolating and stabilising machines
 - working with stored hydraulic pressure
 - working with escaping high pressure oil

- working with hot fluid hazards
- environmental requirements, including procedures for trapping, storing and disposing of hydraulic fluid released from hydraulic systems
- AS 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- operating principles of hydraulic systems and associated components, including:
 - transmission of energy by hydraulic fluid
 - mechanical advantage
 - hydraulic circuits, including open and closed centred systems
 - temperature, force, pressure, area and flow
- application, purpose and operation of hydraulic systems and components, including:
 - reservoirs
 - gas loaded accumulators
 - pumps, including gear and piston
 - valves, including:
 - directional control, including valve banks
 - pressure control, including spike or circuit protection valving
 - flow control, including meter in and meter out
 - linear and rotary actuators
 - hoses, pipes fittings and couplings
 - heat exchangers
 - hydraulic fluids
 - hydraulic system schematics
- diagnostic testing procedures for hydraulic systems, including:
 - applying and using a flow meter to diagnose faults by carrying out an in-line, bypass or 'Tee' test to evaluate system components
 - visually inspecting hoses, pipes and connectors
 - oil sampling and contamination control
- repair procedures for hydraulic systems, including procedures for removing, replacing, repairing and adjusting hydraulic system components
- post-repair testing procedures for hydraulic systems, including:
 - operational functionality
 - flow testing.

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 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
- two different mobile plant or agricultural machinery with hydraulic systems requiring the work specified in the performance evidence
- diagnostic tools and equipment for hydraulic systems, including pressure gauges and flow meters
- AS 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- tools, equipment and materials appropriate for repairing and adjusting mobile plant hydraulic 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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