



**Australian Government**

# **Assessment Requirements for AURTTA013 Diagnose and repair hydraulic systems**

**Release: 1**

# Assessment Requirements for AURTTA013 Diagnose and repair hydraulic 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 this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose and repair a fault in two different hydraulic systems, in which the work must involve removing and refitting or replacing three of the following:
  - hydraulic cylinder
  - hydraulic pump
  - hydraulic motor
  - hydraulic valves
  - hydraulic hose.

## 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 hydraulic systems, including procedures for:
  - using raising, lowering and supporting equipment
  - working with fluids under pressure
  - working with stored pressure hazards
  - working with hot fluid hazards
  - isolating and stabilising machines or vehicles
- environmental requirements, including procedures for trapping, storing and disposing of fluid released from hydraulic 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
  - accumulators
  - pumps, including gear and piston
  - valves, including directional, pressure and flow
  - hand and remote cordless controls
  - linear and rotary actuators
  - hoses, pipes fittings and couplings
  - heat exchangers
  - hydraulic fluids
  - hydraulic symbols and system schematic
- requirements of AS 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- 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, repairing, replacing and adjusting hydraulic system components
- post-repair testing procedures for hydraulic systems, including procedures for testing:
  - operational functionality
  - fluid pressures and levels.

## **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 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 hydraulic system specifications

- two hydraulic systems with faults in the components specified in the performance evidence
- diagnostic tools and equipment for hydraulic systems, including pressure gauges or 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 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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