Australian Government

Assessment Requirements for AURTTA113 Diagnose and repair hydraulic systems

Release: 1

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

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 and repair hydraulic systems, including:
  - information provided by customers and supervisors
  - manufacturer specifications and procedures or equivalent documentation
  - Australian Standard 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- workplace procedures required to diagnose and repair hydraulic systems, including:
  - establishing 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

    - disposal of excess materials
    - recycling procedures
- workplace health and safety (WHS) 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 relating to diagnosing and repairing hydraulic systems, including procedures for trapping, storing and disposing of hydraulic 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
- purpose and operation of systems and components, including:
    - reservoirs
    - gas loaded accumulators
    - pumps, including gear and piston
    - valves, including:
        - directional control
        - pressure control
        - flow control
    - linear and rotary actuators
    - hoses, pipes fittings and couplings
    - heat exchangers
    - hydraulic fluids
    - hydraulic symbols and 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

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.

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