



Australian Government

Assessment Requirements for AURLTE102 Diagnose and repair light vehicle engines

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 three different light vehicle engines
- in the course of the above work, diagnose and repair the following faults:
 - a fault in an engine cylinder head with an overhead camshaft, in which the work must involve removing the cylinder head from the engine
 - a fault in two different engines that affects one of the following components for each, in which the work must involve removing the component from the engine:
 - engine valve timing belt
 - engine valve timing chain
 - engine valve lifters
 - cylinder head valve stem seals
 - camshaft
 - camshaft bearings
 - crankshaft
 - balance shaft or its bearings
 - pistons and connecting rods
 - cylinder block sleeves
 - main bearings and big-end bearings
 - internal oil pump
- in the course of the above work, carry out a diagnostic test for at least one of the following faults:
 - leaking cylinders
 - low oil pressure
 - abnormal engine noises.

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 light vehicle engines, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair light vehicle engines, 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 light vehicle engines, including procedures for lifting and supporting light vehicle engines
- environmental requirements relating to diagnosing and repairing light vehicle engines, including procedures for trapping, storing and disposing of fluids released from engines
- operating principles of light vehicle engines, including:
 - combustion, including:
 - air-fuel ratios and combustion cycles
 - direct injection
 - detonation
 - engine design, including:
 - swept volume and engine volume
 - compression ratio
 - engine efficiency, including volumetric efficiency, thermal efficiency and mechanical efficiency
 - torque and horsepower, including brake horsepower
- diagnostic testing procedures for light vehicle engines, including:
 - wet and dry compression tests
 - cylinder leakage tests
 - oil pressure tests
 - checking sources of fluid leaks
 - exhaust smoke diagnosis
 - checking abnormal engine noises
- dismantling procedures for light vehicle engines, including procedures for:
 - measuring clearances and tolerances

- inspecting components
- repair procedures for light vehicle engines, including procedures for removing, replacing and adjusting them
- assembly procedures for light vehicle engines, including procedures for removing, replacing and adjusting them
- post-repair testing procedures for light vehicle engines, including:
 - checking oil pressure
 - road testing under load
 - checking for fluid leaks.

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 light vehicle engines 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 engine specifications
- three different light vehicle engines with faults specified in the performance evidence
- diagnostic equipment for light vehicle engines
- tools, equipment and materials appropriate for repairing light vehicle engines.

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>