



Australian Government

Assessment Requirements for AURJTE001 Diagnose and repair motorcycle engines

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

- diagnose and repair a fault in three different motorcycle engines in which the work must involve removing, dismantling, reassembling, replacing and adjusting the engine cylinder heads
- remove and refit or replace one of the above motorcycle engines.

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 motorcycle engines, including procedures for lifting and supporting motorcycle engines
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from motorcycle engines
- operating principles of motorcycle engines and associated components, including combustion, such as:
 - air-fuel ratios and combustion cycles
 - direct injection
 - detonation
- key features of 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
- application, purpose and operation of the following components of motorcycle engines and components, including:
 - lubrication systems, cylinder blocks, cylinders, pistons, cylinder heads, combustion chambers, inlet and exhaust manifolds, connecting rods, crankshafts, piston rings, gudgeon pins, camshafts, timing gears, vibration dampers and flywheels
- diagnostic testing procedures for motorcycle engines, including:
 - testing wet and dry compression
 - testing cylinder leakage
 - testing oil pressure
 - testing sources of fluid leaks
 - exhaust smoke diagnosis
 - checking abnormal engine noises
- dismantling procedures for motorcycle engines, including procedures for:
 - measuring clearances and tolerances
 - inspecting components
- repair procedures for removing, replacing and adjusting motorcycle engines
- assembly procedures for motorcycle engines, including:
 - fitting components
 - checking tolerances and clearances
 - torquing retaining bolts
- post-repair testing procedures for motorcycle engines, including:
 - checking oil pressure
 - road testing under load
 - checking for fluid leaks.

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 motorcycle 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:

- motorcycle repair workplace or simulated workplace
- workplace instructions

- manufacturer motorcycle engine specifications
- three different motorcycles with engine faults
- diagnostic equipment for motorcycle engines
- tools, equipment and materials appropriate for repairing motorcycle engines.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

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