



Australian Government

Assessment Requirements for AURHTE003 Diagnose complex faults in heavy vehicle diesel 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 standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose complex faults in three different heavy vehicle diesel engines
- the above diagnosis must involve two of the following types of complex faults:
 - an intermittent fault
 - a fault that affects more than one system
 - a fault introduced as a result of a system repair
 - an indirect fault caused by the influence of external systems.

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 complex faults in heavy vehicle diesel engines, including procedures for working with hot engine components and rotating engine components
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from diesel engines
- types of complex faults relating to heavy vehicle diesel engines, including:
 - intermittent
 - multi-system
 - introduced as a result of system repair
 - indirect, caused by the influence of external systems
- types, function and operation of heavy vehicle diesel engines, including:
 - intake, exhaust, lubrication, cooling and engine mounting systems and components
 - turbochargers

- valve timing
- testing procedures for heavy vehicle diesel engines, including:
 - wet and dry compression tests
 - cylinder leakage tests
 - oil pressure tests
 - sources of fluid leaks
 - exhaust smoke diagnosis
 - abnormal noise analysis
- types, functions, operation and limitations of diagnostic testing equipment required to diagnose complex faults in heavy vehicle diesel engines
- procedures for accessing and interpreting scan tool system data, including:
 - diagnostic trouble codes (DTCs), including:
 - conditions that set the DTCs
 - conditions for running DTCs
 - live data
 - freeze frame data
 - waveforms
 - vehicle continuous and non-continuous monitored systems
- methods and processes for documenting and reporting diagnostic findings and recommendations.

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 heavy vehicle diesel 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 heavy vehicle diesel engine specifications
- three different heavy vehicle diesel engines with complex faults
- heavy vehicle diesel engine diagnostic equipment, including:
 - compression tester
 - cylinder leakage tester

- oil pressure gauge
- scan tool
- tools, equipment and materials appropriate for diagnosing complex faults in heavy vehicle diesel 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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