



Australian Government

AURETR035 Apply knowledge of petrol and diesel engine operation

Release: 1

AURETR035 Apply knowledge of petrol and diesel engine operation

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to apply knowledge of petrol and diesel engine components and systems, as well as of the principles of engine operation, during the testing and repair of basic electrical circuits in vehicles, vessels and machinery.

It applies to those working in the automotive service and repair industry. The engines include those in agricultural machinery, heavy commercial vehicles, light vehicles, vessels, mobile plant machinery, motorcycles or outdoor power equipment.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Electrical

Unit Sector

Technical - Electrical and Electronic

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Identify relevant information relating to petrol and diesel engine operation in work	1.1 Functions of engine components are identified during testing and repair activities 1.2 Functions of <i>engine-related electrical systems</i> are identified during testing and repair activities

Elements	Performance Criteria
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activities	
2. Apply knowledge of petrol and diesel engine operation in work activities	2.1 Effect of electrical system on engine performance is identified during testing and repair activities 2.2 Knowledge is applied of the relationship that a four-stroke cycle petrol engine has with vehicle ignition, starting, air and fuel delivery and cooling systems 2.3 Knowledge is applied of the relationship that a diesel engine has with vehicle ignition, starting, air and fuel delivery and cooling systems
3. Evaluate knowledge of petrol and diesel engine operation	3.1 Knowledge is regularly checked with colleagues and supervisor to ensure currency and accuracy 3.2 Knowledge is updated as required to complement own work role

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	interpret a range of technical information relating to petrol and diesel engines and their operation.
Numeracy skills to:	- interpret numbers and units relating to petrol and diesel engines in automotive technical information - use basic mathematical operations to calculate engine dimensions, such as bore, stroke power, and torque - interpret numbers and units used with measuring equipment, such as compression gauges and cylinder leakage testers.

Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Engine-related electrical systems</i> must include:	• ignition system • charging system • starting system • engine management system.
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Unit Mapping Information

Equivalent to AURETR2035 Demonstrate knowledge of petrol and diesel engine operation

Links

Companion Volume implementation guides are found in VETNet -

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