



Australian Government

AURPTE002 Inspect and service outdoor power equipment engines

Release: 1

AURPTE002 Inspect and service outdoor power equipment engines

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect and service engines according to manufacturer instructions. It involves preparing for the task, inspecting the engine, reporting the inspection findings, servicing and adjusting the engine, and completing workplace processes and documentation.

It applies to those working in the outdoor power equipment service and repair industry. This unit does not apply to light and heavy vehicle engines. The engines include those of two-stroke and four-stroke spark ignition, or four-stroke compression ignition engines of outdoor power equipment.

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

Competency Field

Outdoor Power Equipment

Unit Sector

Technical - Engines

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. Prepare to inspect and service an outdoor	1.1 Job requirements are determined from workplace instructions 1.2 Servicing information is sourced and interpreted

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.
power equipment engine	1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools, equipment and materials are selected and checked for serviceability
2. Inspect engine	2.1 Engine is inspected and tested according to manufacturer specifications, workplace procedures, and <i>safety and environmental requirements</i> 2.2 Inspection results are compared with manufacturer specifications 2.3 Inspection findings are reported according to workplace procedures, including recommendations for necessary repairs or adjustments 2.4 Authorisation to proceed is obtained according to workplace procedures
3. Service engine	3.1 Service options are selected according to manufacturer maintenance schedule and lubrication charts 3.2 Service and adjustments are carried out according to manufacturer specifications, workplace procedures, and safety and environmental requirements, and without causing damage to components or systems 3.3 <i>Post-service testing</i> is carried out according to workplace procedures
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and equipment or engine is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

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
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Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	interpret information from manufacturer and workshop literature when seeking engine service specifications and procedures for outdoor power equipment.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting inspection findings, making recommendations, and recording parts and material used.
Oral communication skills to:	- clarify instructions - report inspection findings and make repair recommendations.
Numeracy skills to:	- calculate liquid volumes and service schedule intervals using basic mathematical operations, including addition and subtraction - interpret measuring equipment divisions.
Problem solving skills to:	refer problems outside area of responsibility to appropriate person.

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>Safety and environmental requirements</i> must include:	- work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for working with: - rotating and hot components - engine oils - high energy ignition and charging systems - environmental requirements, including procedures for trapping, storing and disposing of lubricant and fluids released from outdoor power equipment engines.
<i>Post-service testing</i> must include:	- running engine to operating temperature - checking engine for leaks and abnormal noises - making adjustments as required - re-testing engine.

Unit Mapping Information

Equivalent to AURPTE2002 Service engines and engine components (outdoor power equipment)

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AURPTE002 Inspect and service outdoor power equipment engines

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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:

- inspect and service the following outdoor power equipment engine types:
 - two-stroke spark ignition engine
 - four-stroke spark ignition engine
 - four-stroke compression ignition engine
- the above work must involve:
 - minor engine adjustments
 - replacing oil and oil filter
 - inspecting ancillary components.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting and servicing outdoor power equipment engines, including procedures for working with:
 - rotating and hot components
 - engine oils
 - high energy ignition and charging systems
- environmental requirements, including procedures for trapping, storing and disposing of lubricant and fluids released from outdoor power equipment engines
- identification and function of two-stroke and four-stroke major engine components, including:
 - cylinder block and head

- piston and connecting rod
- crankshaft
- valve train
- manifolds
- ports and reed valves
- carburettors and fuel injectors
- identification and function of outdoor power equipment engine systems, including:
 - lubrication
 - cooling system, including:
 - air cooled
 - liquid cooled
 - fuel system
- basic operation of spark ignition engines and compression ignition engines, including:
 - two-stroke spark ignition engines
 - four-stroke spark ignition engines
 - four-stroke compression ignition engines
- types and applications of:
 - engine configurations
 - engine oils and filters
- inspection procedures for engines, including:
 - oil and fluid leaks
 - ancillary components, including:
 - mountings
 - belts and pulleys
- service and adjustment procedures for engines, including:
 - minor adjustments
 - changing oil and filter
- post-service testing procedures for outdoor power equipment engines, including operating engine through full operating range.

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 equipment or outdoor power equipment 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:

- outdoor power equipment repair workplace or simulated workplace
- workplace instructions
- manufacturer engine specifications
- three different outdoor power equipment engines specified in the performance evidence and requiring servicing
- tools, equipment and materials appropriate for inspecting and servicing outdoor power equipment engines.

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