



**Australian Government**

# **AURLTE001 Remove and install light vehicle engine assemblies**

**Release: 1**

# AURLTE001 Remove and install light vehicle engine assemblies

## Modification History

| Release   | Comment                 |
|-----------|-------------------------|
| Release 1 | New unit of competency. |

## Application

This unit describes the performance outcomes required to remove and install engine assemblies fitted to light vehicles. It involves preparing for the task, removing and installing the engine assembly, performing post-installation testing, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The engine assemblies include those of light vehicles, motorcycles or light commercial vehicles.

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

## Competency Field

Mechanical - Light Vehicle

## 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 remove light vehicle engine assembly | 1.1 Job requirements are determined from workplace instructions<br>1.2 Engine removal and installation procedures and information are sourced and interpreted<br>1.3 Engine removal and installation options are analysed and those most appropriate to the circumstances are selected |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | <p>1.4 Hazards associated with the work are identified and risks are managed</p> <p>1.5 Tools and equipment are selected and checked for serviceability</p>                                                                                                                                                                                                                                                                  |
| 2. Remove engine assembly  | <p>2.1 Engine assembly is removed according to manufacturer specifications, workplace procedures, and <b>safety and environmental requirements</b>, and without causing damage to components or systems</p> <p>2.2 Engine assembly, components and systems are inspected and faults are reported according to workplace procedures, including recommendations for necessary repairs or adjustments</p>                       |
| 3. Install engine assembly | <p>3.1 Installation options are analysed and those most appropriate to the circumstances are selected</p> <p>3.2 Engine assembly is installed according to manufacturer specifications and workplace procedures, and without causing damage to components or systems</p> <p>3.3 <b>Post-installation checks, adjustments and tests</b> are carried out according to manufacturer specifications and workplace procedures</p> |
| 4. Complete work processes | <p>4.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use</p> <p>4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected</p> <p>4.3 Tools and equipment are checked and stored according to workplace procedures</p> <p>4.4 Workplace documentation is processed according to workplace procedures</p>   |

## 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:       | <ul style="list-style-type: none"> <li>locate appropriate sources of information efficiently.</li> </ul>                                                                                      |
| Reading skills to:        | <ul style="list-style-type: none"> <li>interpret information from manufacturer and workshop literature when seeking engine removal and installation specifications and procedures.</li> </ul> |
| Writing skills to:        | <ul style="list-style-type: none"> <li>legibly and accurately fill out workplace documentation when recording parts and material used.</li> </ul>                                             |
| Oral communication skills | <ul style="list-style-type: none"> <li>clarify workplace instructions and determine job requirements.</li> </ul>                                                                              |

| Skills                             | Description                                                                                                                                                                                                                                                                                      |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| to:                                |                                                                                                                                                                                                                                                                                                  |
| Numeracy skills to:                | <ul style="list-style-type: none"> <li>measure components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications</li> <li>calculate and adjust lubricants and coolant volumes.</li> </ul> |
| Planning and organising skills to: | <ul style="list-style-type: none"> <li>plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.</li> </ul>                                                                                                     |

## 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.

|                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Safety and environmental requirements</i></b> must include:           | <ul style="list-style-type: none"> <li>work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: <ul style="list-style-type: none"> <li>using engine lifting devices and supporting equipment</li> <li>handling oils, fuels and coolant</li> </ul> </li> <li>environmental requirements, including procedures for trapping, storing and disposing of oils, fluids, coolants and gases released from engine assemblies.</li> </ul> |
| <b><i>Post-installation checks, adjustments and tests</i></b> must include: | <ul style="list-style-type: none"> <li>pre-start procedures</li> <li>operational testing and run-in procedures</li> <li>engine adjustments and cylinder head bolt re-tensioning as required</li> <li>throttle adjustments</li> <li>coolant adjustments</li> <li>ancillary engine systems.</li> </ul>                                                                                                                                                                                  |

## Unit Mapping Information

Equivalent to AURLTE2001 Remove and install light vehicle engine assemblies

## Links

Companion Volume implementation guides are found in VETNet -

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

