



Australian Government

**AURETR144 Diagnose and repair
integrated engine and transmission
management systems**

Release: 1

AURETR144 Diagnose and repair integrated engine and transmission management systems

Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Application

This unit describes the skills and knowledge required to diagnose and repair faults in the engine and transmission management systems of vehicles or machinery. These systems communicate on the vehicle two-wire (CAN-bus) networked controlled circuit and are an integral part of an engine and transmission management system. The unit involves preparing for the task, selecting the correct diagnostic procedure, carrying out the diagnosis and the repair, performing post-repair testing, and completing workplace processes and documentation.

The unit applies to those who work in an automotive service and repair industry. The engine and transmission management systems include those in agricultural machinery, heavy commercial vehicles, light vehicles or mobile plant machinery.

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

Unit Sector

Electrical Technical – Electrical and Electronics

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to diagnose and repair engine and transmission management system	1.1 Access workplace instructions to identify job requirements and confirm existence of fault according to workplace procedures 1.2 Source and interpret required information for diagnosis activity, including customer complaint, workplace and manufacturer procedures 1.3 Source testing strategy to efficiently identify cause of fault

ELEMENT	PERFORMANCE CRITERIA
	using workplace and manufacturer procedures 1.4 Identify hazards and environmental issues, assess potential risks and implement control measures in line with workplace policies 1.5 Identify diagnostic tools and equipment required for the job and examine them for serviceability
2. Diagnose engine and transmission management system	2.1 Carry out diagnostic tests according to manufacturer and workplace procedures, and workplace health and safety requirements 2.2 Analyse diagnostic test results to identify cause of fault, conducting further tests if required 2.3 Confirm and report cause of fault according to workplace procedures 2.4 Develop and report recommendations for necessary repairs or adjustments according to workplace procedures
3. Repair engine and transmission management system	3.1 Source and interpret required information for repair activity, including manufacturer specifications, workplace and manufacturer procedures 3.2 Identify repair tools, equipment and materials required for the job and examine for serviceability 3.3 Carry out repairs or component replacements and adjustments according to workplace and manufacturer procedures, manufacturer specifications, workplace health and safety and environmental requirements 3.4 Carry out post-repair testing according to workplace procedures, workplace health and safety and environmental requirements to confirm fault rectification and repair any issues identified
4. Complete work processes	4.1 Carry out final inspection to ensure work meets workplace expectations and vehicle is ready for use 4.2 Clear work area and dispose of or recycle materials according to workplace procedures 4.3 Complete documentation according to workplace procedures

Foundation Skills

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

SKILL	DESCRIPTION
-------	-------------

SKILL	DESCRIPTION
Learning	<ul style="list-style-type: none"> • Locates required sources of information efficiently • Develops a sequenced plan for a specific task
Reading	<ul style="list-style-type: none"> • Organises and interprets technical information from workplace procedures, manufacturer procedures and manufacturer specifications • Interprets text, symbols and wiring diagrams in information relating to electrical system testing and repair equipment from manufacturer specifications and workplace instructions and procedures
Oral communication	<ul style="list-style-type: none"> • Clarifies instructions • Obtains information from customers and supervisors
Numeracy	<ul style="list-style-type: none"> • Matches electrical components and part identification numbers to workplace instructions, vehicle, machinery and component part lists, and manufacturer specifications • Interprets vehicle electrical measurements and readings • Measures voltage, current and resistance and uses mathematical operations • Calculates deviations from manufacturer specifications
Planning and organising	<ul style="list-style-type: none"> • Plans own work requirements • Prioritises actions to achieve required outcomes • Ensures tasks are completed within workplace timeframes
Technology	<ul style="list-style-type: none"> • Uses specialised diagnostic equipment.

Unit Mapping Information

Supersedes and is equivalent to AURETR044 Diagnose and repair integrated engine and transmission management systems.

Links

Companion Volume Implementation Guide is found on VETNet -

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