



Australian Government

AURETR120 Diagnose and repair network electronic control systems

Release: 1

AURETR120 Diagnose and repair network electronic control 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 network electronic control systems. These systems include two-wire high and low speed (CAN-bus) and single wire low speed (LIN-bus) networked circuits essential to control engine powertrain, vehicle dynamic control functions and body control functions. They include vehicle infotainment and climate control systems. The systems used vary based on the work context. The unit involves preparing for the task, sourcing a diagnostic testing strategy, diagnosing the cause of the fault, carrying out the repair, performing post-repair testing, and completing workplace processes and documentation.

The unit applies to those who work in the automotive service and repair industry. Embedded networked systems include those in agricultural machinery, heavy commercial vehicles, light vehicles, marine 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.

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 network electronic control system	1.1 Identify job requirements from workplace instructions 1.2 Identify required information for diagnosis activity 1.3 Analyse diagnostic options and source testing strategy to identify cause of fault using workplace and manufacturer procedures

ELEMENT	PERFORMANCE CRITERIA
	<p>1.4 Identify hazards and environmental issues associated with diagnose and repair activity, assess potential risks and implement control measures in line with workplace policies and procedures</p> <p>1.5 Identify tools and equipment required for testing strategy and establish serviceability according to workplace procedures</p>
2. Diagnose network electronic control system	<p>2.1 Implement diagnostic tests set out in testing strategy according to manufacturer and workplace procedures, and workplace health and safety requirements</p> <p>2.2 Identify cause of fault through analysis of diagnostic test results</p> <p>2.3 Confirm and report cause of fault according to workplace procedures</p> <p>2.4 Develop and report recommendations for necessary repairs according to workplace procedures</p>
3. Repair network electronic control system	<p>3.1 Identify required information for repair activity</p> <p>3.2 Identify required repair tools, equipment and materials required for repair activity and establish serviceability according to workplace procedures</p> <p>3.3 Carry out repairs according to workplace and manufacturer procedures, manufacturer specifications, workplace health and safety and environmental requirements</p> <p>3.4 Carry out post-repair testing according to workplace procedures, workplace health and safety and environmental requirements</p>
4. Complete work processes	<p>4.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for use</p> <p>4.2 Clear work area and dispose of or recycle materials according to workplace procedures</p> <p>4.3 Complete documentation according to workplace procedures</p>

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
Learning	<ul style="list-style-type: none"> Locates required sources of information efficiently Develops a sequenced plan for a specific task

SKILL	DESCRIPTION
Reading	<ul style="list-style-type: none">Organises and interprets technical information from workplace procedures, manufacturer procedures and manufacturer specificationsInterprets 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 instructionsObtains 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 specificationsReads and interprets vehicle electrical measurements and readingsMeasures voltage, current and resistance and uses mathematical operationsCalculates deviations from manufacturer specifications
Planning and organising	<ul style="list-style-type: none">Plans own work requirementsPrioritises actions to achieve required outcomesEnsures 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 AURETR020 Diagnose and repair network electronic control systems.

Links

Companion Volume Implementation Guide is found on VETNet -

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