



**Australian Government**

# **AURETD011 Diagnose and repair electronically controlled steering systems**

**Release: 1**

# AURETD011 Diagnose and repair electronically controlled steering systems

## Modification History

Release	Comment
Release 1	New unit of competency.

## Application

This unit describes the skills and knowledge required to diagnose and repair faults in electronically controlled steering systems. These systems include two-wire high and low speed (CAN-bus) and single wire low speed (LIN-bus) networked circuits in vehicle or machinery embedded network electronic control systems. It 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.

This unit applies to those working within the automotive electrical service and repair industry. The electronically controlled steering systems include those in agricultural machinery, heavy commercial vehicles, light vehicles, mobile plant machinery or motorcycles.

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

## Unit Sector

Technical - Steering and Suspension

## Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Diagnose electronically controlled steering system	<ul style="list-style-type: none"><li>1.1 Identify job requirements from workplace instructions</li><li>1.2 Obtain and interpret diagnostic information in order to identify diagnostic options required for the job</li><li>1.3 Identify hazards and environmental issues, assess potential risks, and implement control measures in line with workplace policies</li><li>1.4 Identify diagnostic tools and equipment required for the job and examine for serviceability</li><li>1.5 Perform diagnostic tests according to workplace procedures and</li></ul>

	<p>workplace health and safety requirements</p> <p>1.6 Examine diagnostic test results to identify causes of faults, report findings and make recommendations for necessary repairs or adjustments according to workplace procedures</p>
2. Repair and test electronically controlled steering system	<p>2.1 Obtain and interpret repair information in order to identify repair options required for the job</p> <p>2.2 Identify repair tools, equipment and materials for the job and examine for serviceability</p> <p>2.3 Carry out repairs or component replacements and adjustments according to workplace procedures, manufacturer specifications, workplace health and safety and environmental requirements</p> <p>2.4 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</p>
3. Complete work processes	<p>3.1 Carry out final inspection to ensure work meets workplace expectations and vehicle or machinery is ready for use</p> <p>3.2 Clear work area and dispose of waste or recycle materials according to workplace procedures</p> <p>3.3 Examine and store tools and equipment, ensuring faulty electrical equipment is identified, tagged and isolated according to workplace procedures</p> <p>3.4 Complete documentation 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 relevant sources of electronically controlled steering systems information efficiently</li> </ul>
Reading skills to:	<ul style="list-style-type: none"> <li>read and interpret information from workplace procedures and documentation when seeking electronically controlled steering systems specifications and procedures</li> </ul>
Writing skills to:	<ul style="list-style-type: none"> <li>legibly and accurately fill out workplace documentation when reporting diagnostic findings, making repair recommendations, and recording parts and material used</li> </ul>
Oral communication skills to:	<ul style="list-style-type: none"> <li>clarify instructions</li> <li>report diagnostic findings</li> <li>make repair recommendations</li> </ul>
Numeracy skills to:	<ul style="list-style-type: none"> <li>use basic mathematical operations, including addition and</li> </ul>

	subtraction <ul style="list-style-type: none"> <li>calculate deviations from manufacturer specifications</li> <li>match electronically controlled steering system components and part identification numbers to workplace instructions, vehicle and component part lists, and manufacturer specifications</li> <li>measure voltage, current and resistance</li> <li>interpret vehicle or machinery electrical measurements and readings</li> </ul>
Planning and organising skills to:	<ul style="list-style-type: none"> <li>plan own work requirements</li> <li>prioritise actions to achieve required outcomes</li> <li>ensure tasks are completed within workplace timeframes</li> </ul>
Technology skills to:	<ul style="list-style-type: none"> <li>use specialised equipment, including multimeters</li> <li>use diagnostic scan tools</li> </ul>

## Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AURETD011 Diagnose and repair electronically controlled steering systems (Release 1)	AURETD001 Diagnose and repair electronically controlled steering systems (Release 1)	<p>Wording changes to ensure compliance with Standards for Training Packages. Combination of performance elements to create three performance criteria.</p> <p>Removal of references to OHS requirements.</p> <p>Removal of range of conditions.</p> <p>Explicit reference to the use of diagnostic scan tools in foundation skills.</p> <p>Addition of minor elements to knowledge evidence.</p> <p>Addition of assessor requirements.</p>	Equivalent

## Links

Companion Volume Implementation Guides are found in VETNet -

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