



Australian Government

AURTTA121 Diagnose complex system faults

Release: 1

AURTTA121 Diagnose complex system faults

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 faults in complex vehicle, vessels or machinery systems to determine the repair action necessary to restore system performance. It involves confirming the existence of a complex system fault, developing a diagnostic testing strategy, diagnosing the cause of the fault reporting conclusions, and making repair recommendations. A complex system integrates two or more automotive systems, or incorporates three or more mechanical, hydraulic, pneumatic, electrical or electronic sub-systems. Examples include electronically controlled automatic transmissions, anti-lock braking systems, and engine management systems integrating ignition, fuel and transmission control systems.

The unit applies to those who work in the automotive service and repair industry.

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

Unit Sector

Mechanical Miscellaneous - Technical

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. Identify and confirm the work requirement regarding complex system fault	1.1 Identify job requirements from workplace instructions 1.2 Confirm nature of fault according to workplace procedures 1.3 Identify function and correct operation of system with fault 1.4 Identify other systems affected by fault
2. Develop testing strategy	2.1 Identify required information for diagnosis activity 2.2 Analyse diagnostic options and develop testing strategy, including, diagnostic method sequence, tests and testing

ELEMENT	PERFORMANCE CRITERIA
	processes 2.3 Identify tools and equipment required for testing strategy and establish serviceability according to workplace procedures 2.4 Identify hazards and environmental issues associated with diagnosis activity, assess potential risks and implement control measures in line with workplace policies and procedures
3. Perform diagnosis	3.1 Implement diagnostic tests set out in testing strategy according to manufacturer and workplace procedures, and workplace health and safety requirements 3.2 Verify and report diagnostic findings using reliable alternative process according to manufacturer specifications and workplace procedures 3.3 Develop and report recommendations for necessary repairs according to workplace procedures 3.4 Communicate findings to workplace supervisor and customer and confirm next steps
4. Complete work processes	4.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for repair process or return to customer 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
Learning	- Locates and evaluates required sources of information efficiently - Develops own approach to a task, including steps to confirm findings
Reading	Organises and interprets technical information from manufacturer and workshop literature when seeking specifications and procedures

SKILL	DESCRIPTION
Oral communication	• Clarifies instructions • Obtains information from customers and supervisors • Reports diagnostic findings, and makes repair recommendations
Numeracy	• Measures components and uses basic mathematical operations, including addition and subtraction, to calculate tolerances and deviations from manufacturer specifications
Planning and organising	• Plans own work requirements • Prioritises actions to achieve required outcomes • Ensures tasks are completed within workplace timeframes
Technology	• Uses precision measuring equipment • Uses specialised integrated system diagnostic equipment.

Unit Mapping Information

Supersedes and is equivalent to AURTTA021 Diagnose complex system faults.

Links

Companion Volume Implementation Guide is found on VETNet -

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