



Australian Government

AURKTX104 Diagnose and repair continuously variable transmissions

Release: 1

AURKTX104 Diagnose and repair continuously variable transmissions

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 continuously variable transmissions. 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 working in the automotive service and repair industry. The continuously variable transmissions include those in agricultural machinery or mobile plant machinery.

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

Unit Sector

Mechanical Mobile Plant Technical – Transmissions

Elements and Performance Criteria

ELEMENTS	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 continuously variable transmission	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 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

ELEMENTS	PERFORMANCE CRITERIA
	1.5 Identify tools and equipment required for testing strategy and establish serviceability according to workplace procedures
2. Diagnose continuously variable transmission	2.1 Implement diagnostic tests set out in testing strategy according to manufacturer and workplace procedures, and workplace health and safety requirements 2.2 Identify cause of fault through analysis of diagnostic test results 2.3 Confirm and report cause of fault according to workplace procedures 2.4 Develop and report recommendations for necessary repairs according to workplace procedures
3. Repair continuously variable transmission	3.1 Identify required information for repair activity 3.2 Identify tools, equipment and materials required for repair activity and establish serviceability according to workplace procedures 3.3 Carry out repairs 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
4. Complete work processes	4.1 Conduct final inspection according to workplace procedures and confirm machinery 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
Learning	- Locates required sources of information efficiently - Develops a sequenced plan for a specific task.
Reading	Organises and interprets technical information from workplace procedures, manufacturer procedures and manufacturer specifications.

SKILL	DESCRIPTION
Oral communication	• Clarifies instructions • Obtains information from customers and supervisors.
Numeracy	• Measures continuously variable transmission components • Uses mathematical operations • Calculates deviations and tolerances from manufacturer specifications • Interprets hydraulic pressure gauges and other measuring equipment.
Planning and organising	• Plans own work requirements • Prioritises actions to achieve required outcomes • Ensures tasks are completed within workplace timeframes.
Technology	• Operates diagnostic and testing equipment.

Unit Mapping Information

Supersedes and is equivalent to AURKTX004 Diagnose and repair continuously variable transmissions.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for AURKTX104 Diagnose and repair continuously variable transmissions

Modification History

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

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- diagnose and repair a fault in at least two different machines with continuously variable transmissions
- remove, refit or replace at least one of the above transmissions.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret information required to diagnose and repair continuously variable transmissions, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair continuously variable transmissions, including:
 - establishing serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment
 - disposal of excess materials
 - recycling procedures
- workplace health and safety (WHS) requirements relating to diagnosing and repairing continuously variable transmissions, including procedures for:
 - tagging out and isolating machines, and wheel chocking
 - working with high pressure fluid hazards

- using lifting, jacking and supporting equipment
- environmental requirements relating to diagnosing and repairing continuously variable transmissions, including procedures for trapping, storing and disposing of hydraulic fluid released from continuously variable transmissions
- operating principles of continuously variable transmissions and associated components, including:
 - hydrostatic systems
 - countershaft transmissions
 - planetary transmissions
 - transmission control valves and solenoids
 - hydraulic circuits and schematics
 - electronic control system
- purpose and operation of continuously variable transmissions and components, including:
 - power flows, including compound planetary transmissions
 - hydrostatic components
 - hydraulic components and hydraulic control components, including:
 - oil pumps
 - air pumps
 - filters
 - hydraulic valves
 - power train electronic control system
 - mechanical components, including clutch packs and compound gear sets
 - continuously variable electronic control system, including:
 - sensors
 - solenoids
 - electronic controllers
 - calibration
- diagnostic testing procedures for continuously variable transmissions that comply with manufacturer specifications, including:
 - accessing and interpreting scan tool system data, including:
 - diagnostic trouble codes (DTCs)
 - live data
 - waveforms
- repair procedures for continuously variable transmissions, including procedures for removing, replacing and adjusting them
- post-repair testing procedures for continuously variable transmissions.

Assessment Conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the continuously variable transmissions that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer continuously variable transmission specifications
- two different machines with continuously variable transmission faults
- diagnostic equipment for continuously variable transmissions
- tools, equipment and materials appropriate for repairing and adjusting continuously variable transmissions.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

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