



Australian Government

AURLTX103 Diagnose and repair light vehicle clutch systems

Release: 1

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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 clutch systems of light vehicles. 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 clutch systems include those in light vehicles or light commercial vehicles.

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

Unit Sector

Mechanical Light Vehicle 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 light vehicle clutch 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 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 1.5 Identify tools and equipment required for testing strategy and establish serviceability according to workplace

ELEMENTS	PERFORMANCE CRITERIA
	procedures
2. Diagnose light vehicle clutch system	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 light vehicle clutch system	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 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
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.
Oral communication	• Clarifies instructions • Obtains information from customers and supervisors.

SKILL	DESCRIPTION
Numeracy	• Measures clutch system components • Uses mathematical operations • Calculates distances, areas and tolerances • Calculates 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.

Unit Mapping Information

Supersedes and is equivalent to AURLTX013 Diagnose and repair light vehicle clutch systems.

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 AURLTX103 Diagnose and repair light vehicle clutch systems

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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 faults in the clutch system of a light vehicle, in which the work must involve:
 - removing and refitting a light vehicle manual transmission
 - removing, refitting or replacing each of the following components:
 - a light vehicle flywheel
 - clutch friction disc
 - clutch pressure plate assembly
 - release bearing
- carry out a diagnostic test in the course of the above for at least one of the following faults:
 - misadjusted cables or parts
 - worn or malfunctioning components
 - oil leakage or contamination.

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 light vehicle clutch systems, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair light vehicle clutch systems, 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 light vehicle clutch systems, including procedures for:
 - lifting and supporting light vehicle manual transmissions
 - handling and controlling clutch dust and clutch fluid
- environmental requirements relating to diagnosing and repairing light vehicle clutch systems, including procedures for trapping, storing and disposing of brake dust and brake fluids released from clutch systems
- operating principles of light vehicle clutch systems and associated components, including coefficient of friction
- purpose and operation of light vehicle clutch systems and components, including:
 - wet and dry single and multi-plate clutch
 - dual mass flywheels
 - dampening systems
 - cable operated clutch
 - hydraulically operated clutch
- diagnostic testing procedures for light vehicle clutch systems, including road testing procedures
- repair procedures for light vehicle clutch systems, including procedures for removing, replacing and adjusting them
- post-repair testing procedures for light vehicle clutch systems.

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 light vehicle clutch systems 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 light vehicle clutch system specifications

- light vehicle with manual transmission and with clutch system faults
- diagnostic equipment for light vehicle clutch systems
- tools, equipment and materials appropriate for repairing light vehicle clutch systems, including:
 - transmission lifting equipment
 - clutch aligning tool.

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

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