



Australian Government

AURJTX102 Diagnose and repair motorcycle manual transmissions

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 manual transmissions of motorcycles. 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.

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

Unit Sector

Mechanical Motorcycle 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 motorcycle manual 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 1.5 Identify tools and equipment required for testing strategy and establish serviceability according to workplace

ELEMENTS	PERFORMANCE CRITERIA
	procedures
2. Diagnose motorcycle manual 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 motorcycle manual 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 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 manual transmission components • Uses mathematical operations • Calculates deviations and tolerances 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 AURJTX002 Diagnose and repair motorcycle manual 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 AURJTX102 Diagnose and repair motorcycle manual transmissions

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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 a fault in at least two different motorcycles with different manual transmissions, in which the work must involve removing, dismantling, reassembling and refitting the 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 motorcycle manual transmissions, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair motorcycle manual 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 motorcycle manual transmissions, including procedures for handling transmission fluids and clutch materials

- environmental requirements relating to diagnosing and repairing motorcycle manual transmissions, including procedures for trapping, storing and disposing of fluids released from manual transmissions
- operating principles of motorcycle manual transmissions and associated components, including:
 - gear types
 - gear ratios
- purpose and operation of motorcycle manual transmissions and components, including:
 - transmission types, including:
 - vertical split-type crankcase
 - horizontal split-type crankcase
 - cassette-type
 - sliding gear transmissions, including:
 - dog clutches
 - shifter drums
 - cam plates
 - constant-mesh transmissions, including ball lock-type systems
 - quick shifters
 - types and compatibility of transmission system oils and additives
- diagnostic testing procedures for motorcycle manual transmissions, including:
 - abnormal noise
 - component wear
- repair procedures for motorcycle manual transmissions, including procedures for dismantling, reassembling, refitting and adjusting them
- post-repair testing procedures for motorcycle manual 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 motorcycle manual 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:

- motorcycle repair workplace or simulated workplace
- workplace instructions
- manufacturer motorcycle manual transmission specifications
- two different motorcycles with different manual transmissions with faults

- diagnostic equipment for motorcycle manual transmissions
- tools, equipment and materials appropriate for repairing motorcycle manual transmissions.

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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