



Australian Government

AURJTD103 Diagnose and repair motorcycle suspension 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 motorcycle suspension systems. 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 - Steering and Suspension

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 suspension 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 procedures

ELEMENTS	PERFORMANCE CRITERIA
2. Diagnose motorcycle suspension 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 motorcycle suspension 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 suspension system 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 measuring equipment.

Unit Mapping Information

Supersedes and is equivalent to AURJTD003 Diagnose and repair motorcycle suspension 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 AURJTD103 Diagnose and repair motorcycle suspension 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 a fault in the front suspension systems of at least two different motorcycles, in which the work must involve:
 - removing, dismantling, reassembling, refitting and adjusting front forks
 - changing seals, valves, bushings and oil
- diagnose and repair a fault in the rear suspension systems of at least two different motorcycles.

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 suspension systems, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to diagnose and repair motorcycle suspension 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 motorcycle suspension systems, including procedures for working with:
 - stored energy in springs
 - suspension system oils
 - gas struts
- environmental requirements relating to diagnosing and repairing motorcycle suspension systems, including procedures for trapping, storing and disposing of oils released from suspension systems
- principles of motorcycle suspension systems and associated components, including:
 - brake dive
 - fork spring rate
 - fork compression damping
- purpose and operation of motorcycle suspension systems and components, including:
 - shock absorbers, including:
 - twin shock absorbers
 - mono-shock absorbers
 - telescopic fork suspension
 - inverted telescopic fork suspension
 - front tele-lever and duo-lever
 - rear swing arm suspension (twin-sided, mono-shock and para-lever)
 - gas struts
- diagnostic testing procedures for motorcycle suspension systems, including procedures for analysing:
 - performance
 - component wear
 - abnormal system noise
- repair procedures for motorcycle suspension systems, including procedures for:
 - adjusting pre-load and damping
 - removing, dismantling, reassembling and replacing components, including:
 - seal, bushing and valve replacement
 - oil replacement
 - air purging
 - replacing front fork slider bushes
 - removing and replacing rear shock absorbers
 - dismantling and repairing rear shock absorbers
 - repairing steering damper assemblies
- post-repair testing procedures for motorcycle suspension 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 motorcycle suspension 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:

- motorcycle repair workplace or simulated workplace
- workplace instructions
- manufacturer motorcycle suspension system specifications
- two different motorcycles with faults in the front suspension systems specified in the performance evidence
- diagnostic equipment for motorcycle suspension systems
- tools, equipment and materials appropriate for repairing motorcycle suspension systems.

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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