



Australian Government

AURMTD001 Test suspension dampers using a dynamometer

Release: 1

AURMTD001 Test suspension dampers using a dynamometer

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to use a dynamometer to test suspension dampers on a competition vehicle. It involves preparing for the task, conducting suspension damper testing, analysing and interpreting test results in order to maximise damper, and completing processes and documentation, including any associated recommendations for further action.

It applies to those working in the motor sport industry.

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

Competency Field

Motor Sport

Unit Sector

Technical - Steering and Suspension

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare for dynamometer operation	1.1 Job requirements are determined from team instructions, category regulations and manufacturer procedures 1.2 Dynamometer is checked for calibration and serviceability, and is prepared for operation according to manufacturer specifications and team procedures

Elements Elements describe the essential outcomes.	Performance Criteria Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	1.3 Hazards associated with the work are identified and risks are managed according to <i>safety requirements</i> 1.4 Tools and equipment for securing dampers are selected and checked for serviceability
2. Conduct dynamometer testing	2.1 Appropriate load and run sequence and test parameters are determined 2.2 Dampers are connected and secured to dynamometer according to manufacturer specifications and team procedures 2.3 Selected dynamometer testing sequence is carried out according to manufacturer and team procedures and safety requirements, and results are documented 2.4 Dynamometer test data is analysed and conclusions are drawn about damper condition and performance according to manufacturer specifications and team procedures 2.5 Findings are reported to appropriate personnel, including recommendations based on dynamometer data for damper configuration or modifications to improve performance, according to team procedures 2.6 Damper modifications are carried out and tested on dynamometer according to manufacturer specifications, team procedures and safety requirements as required 2.7 Data is presented to team members according to team procedures
3. Complete work processes	3.1 Dynamometer shutdown procedure is carried out according to manufacturer specifications, team procedures and safety requirements 3.2 Dampers are disconnected from dynamometer according to manufacturer specifications and team procedures 3.3 Dynamometer, tools and associated equipment are checked, maintained and stored according to workplace procedures 3.4 Dynamometer test results are documented and stored according to team procedures to create or add to damper history

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	- interpret safe operating procedures for damper dynamometers from workplace and manufacturer literature - interpret information from manufacturer and workshop literature when seeking damper specifications and procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting findings and recording work completed.
Oral communication skills to:	report findings and make recommendations for adjustments or modifications to the damper.
Numeracy skills to:	- use basic mathematical operations, including addition and subtraction, to measure length and force - interpret metric and imperial units of measurement.
Technology skills to:	operate dedicated damper dynamometer.

Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Safety requirements</i> must include:	work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for handling hot dampers.
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Unit Mapping Information

Equivalent to AURMTD4001 Test suspension dampers using a dynamometer

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AURMTD001 Test suspension dampers using a dynamometer

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- test, adjust and retest two different sets of competition vehicle dampers using a damper dynamometer.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to testing suspension dampers using a dynamometer, including procedures for handling hot dampers
- suspension damper principles, construction and operation, including:
 - compression and rebound
 - gas charged
- suspension damper modification and adjustment procedures
- application, purpose and operation of damper dynamometers, including associated hardware and software
- damper dynamometer testing procedures, including:
 - dynamometer preparation procedures
 - damper connection procedures
 - test environment correction factors
 - dynamometer data interpretation and analysis
- dynamometer maintenance procedures.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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 suspension dampers that they have tested using a dynamometer, e.g. work order.

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

The following resources must be made available:

- motor sport workplace or simulated workplace
- workplace instructions
- manufacturer specifications
- two different sets of competition vehicle dampers
- damper dynamometer
- tools and equipment appropriate for testing suspension dampers using a dynamometer.

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