



Australian Government

AURMTD002 Prepare competition vehicle suspension

Release: 1

AURMTD002 Prepare competition vehicle suspension

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to test, dismantle, inspect, reassemble and adjust the suspension of a motor sport competition vehicle. It involves preparing for the task, selecting the correct preparation procedure, carrying out the task, performing post-preparation testing, and completing workplace processes and documentation. It requires the technical ability to determine competition vehicle suspension requirements and the effects of making changes to variables.

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. Determine competition vehicle suspension requirements	1.1 Job requirements are determined from workplace instructions and category regulations 1.2 Rules and regulations and vehicle specifications and tolerances are analysed for competitive advantage

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 Suspension requirements are determined according to vehicle operating criteria 1.4 Component requirements are documented and communicated to appropriate personnel
2. Prepare for work on suspension	2.1 Tools, equipment and materials are selected and checked for serviceability 2.2 Work area is cleaned and laid out for job requirements according to team requirements 2.3 Hazards associated with the work are identified and risks are managed according to safety requirements 2.4 Vehicle is cleaned and prepared for initial measurement according to team requirements 2.5 Existing suspension settings are measured and documented prior to component removal or adjustment according to workplace procedures 2.6 Problems with work area or operation of the equipment are reported to appropriate personnel as required
3. Dismantle, modify and assemble non-sealed dampers	3.1 Damper removal, testing and dismantling procedures are sourced and interpreted 3.2 Dampers are tested, dismantled, cleaned, inspected and measured for wear, and tolerances are determined according to manufacturer specifications and safety and environmental requirements 3.3 Dampers are replaced, repaired or modified as required according to manufacturer specifications, safety requirements and team procedures 3.4 Dampers are prepared and tested according to manufacturer specifications and procedures, and safety requirements
4. Dismantle, replace or change springs	4.1 Methods for removing and dismantling springs according to manufacturer specifications are sourced and interpreted 4.2 Spring dimensions are measured and documented before dismantling 4.3 Springs are disassembled and cleaned, and rates and tolerances are checked according to manufacturer specifications, workplace procedures and safety requirements 4.4 Retention, replacement, adjustment or service of components is made according to team procedures 4.5 Replacement springs are checked as required for rate and wear according to manufacturer specifications, workplace procedures

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.
	and safety requirements
5. Configure suspension components and settings	5.1 Removed suspension components are inspected for quality and readiness for installation 5.2 Sub-assemblies and fasteners are installed and tensioned in correct sequence according to manufacturer specifications, workplace procedures and safety requirements 5.3 Associated components, sub-assemblies and structural elements of vehicle affecting suspension configuration are checked for serviceability as required and according to manufacturer specifications, workplace procedures and safety requirements 5.4 Suspension components and settings are adjusted and configured within tolerances according to manufacturer specifications, workplace procedures and safety requirements 5.5 Suspension settings are documented and problems with vehicle sub-assemblies are reported to appropriate personnel according to workplace procedures
6. Complete work processes	6.1 Tools and equipment are checked and stored according to team procedures 6.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 6.3 Surplus material and components are checked and stored according to workplace requirements and problems are reported to appropriate personnel as required 6.4 Workplace documentation is processed according to team requirements

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 controlling body rules, category rules and supplementary regulations - interpret information from manufacturer and workshop manuals

Skills	Description
	when seeking suspension system specifications and procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting component requirements and recording parts and material used.
Numeracy skills to:	measure suspension system components and use mathematical basic mathematical operations including addition, subtraction, multiplication and division, to calculate distances, areas, volumes, tolerances and deviations from manufacturer specifications.
Planning and organising skills to:	plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Problem solving skills to:	determine component settings to produce a competitive advantage while complying with rules and regulations.
Teamwork skills to:	work as part of a team to ensure vehicle is prepared and maintained and time wastage is minimised.
Technology skills to:	operate specialised suspension system testing equipment.

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: - selecting and using personal protective equipment (PPE) - managing stored energy in springs.
<i>Environmental requirements</i> must include:	procedures for trapping, storing and disposing of fluids released from dampers.
<i>Prepared and tested</i> must include:	amount and type of oil added, bled, bench tested and re-gassed.

Unit Mapping Information

Equivalent to AURMTD4002 Prepare competition vehicle suspension

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 AURMTD002 Prepare competition vehicle suspension

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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:

- prepare the suspensions of two different competition vehicles.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to preparing competition vehicle suspension, including procedures for:
 - selecting and using personal protective equipment (PPE)
 - managing stored energy in springs
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from dampers
- function, configurations, application and limitations of competition vehicle suspension systems
- suspension system dismantling and testing procedures, including:
 - suspension setting measurement procedures and calculations
 - on-vehicle damper and spring assembly testing procedures
 - damper and spring assembly removal and replacement procedures
 - damper bench-testing, dismantling, inspection, measurement and evaluation procedures
 - spring assembly off-vehicle testing, dismantling, inspection, measurement and evaluation procedures
- suspension system assembly and adjustment procedures, including:
 - damper oil refilling, bleeding and re-gassing procedures

- spring assembly reassembly procedures
- suspension setting adjustment and configuration 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 competition vehicle suspensions that they have prepared, 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
- suspension components
- two different competition vehicles
- tools and equipment appropriate for preparing competition vehicle suspension.

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