



Australian Government

AURLTD001 Select and install performance enhanced suspension system products

Release: 1

AURLTD001 Select and install performance enhanced suspension system products

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to select, install and adjust products to suit a customer's suspension system modification requirements.

It applies to those working in the automotive service and repair industry. The suspension systems are those of four-wheel drive (4WD) vehicles, light vehicles, light commercial vehicles or motor sport vehicles.

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

Competency Field

Mechanical - Light Vehicle

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. Identify customer requirements and assess their practicality and safety compliance	1.1 Purpose of proposed modifications is established and confirmed 1.2 Practicality of customer requirements is assessed and discussed with appropriate personnel 1.3 Proposed modifications are assessed in relation to safety and Australian Design Rules (ADR) compliance

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.
	1.4 Project parameters, including cost and timeframe considerations, are discussed and confirmed 1.5 Vehicle is road tested to ensure proposed modifications are relevant and vehicle condition is appropriate to safely incorporate performance enhanced suspension products 1.6 Written quote is prepared to be authorised by customer according to workplace procedures
2. Prepare for modification	2.1 Required suspension system components are sourced and ordered 2.2 Service information is accessed and interpreted prior to commencing removal procedures 2.3 Hazards associated with the work are identified and risks are managed 2.4 Tools and equipment are selected and checked for serviceability
3. Fit components and make suspension system adjustments	3.1 Original components are removed and stored according to customer requirements, workplace disposal procedures and safety requirements 3.2 New components are inspected before installation to confirm serviceability 3.3 New components are installed according to manufacturer specifications, workplace procedures and safety requirements 3.4 Fluids and lubricants are added to components according to manufacturer specifications and workplace procedures 3.5 Suspension system adjustments are completed according to manufacturer specifications, workplace procedures and safety requirements
4. Road test vehicle and make final adjustments	4.1 Vehicle is road tested to ensure compliance with project intent 4.2 Suspension system is inspected to confirm it is free of leaks and other malfunctions 4.3 Final adjustments are completed according to manufacturer specifications, workplace procedures and safety requirements
5. Complete work processes	5.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use 5.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 5.3 Tools and equipment are checked and stored according to workplace procedures 5.4 Workplace documentation is processed according to workplace procedures

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 suspension system testing, dismantling and assembling equipment from signs and workplace and manufacturer literature - interpret information from manufacturer and workshop manuals when seeking suspension system specifications and procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting findings, making installation recommendations, and recording parts and material used.
Oral communication skills to:	clarify instructions, report findings, and make installation recommendations.
Numeracy skills to:	- understand and communicate suspension system information in degrees and metric and imperial units of measurement - measure suspension system components and use basic mathematical operations, including addition and subtraction, to calculate distances, 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.
Technology skills to:	use measuring equipment, such as tape measures, rulers and vernier calipers.

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 managing stored energy in springs and torsion bars.
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Unit Mapping Information

Equivalent to AURLTD3001 Select and install performance enhanced suspension system products

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 AURLTD001 Select and install performance enhanced suspension system products

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Performance Evidence

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

- select and fit performance enhanced suspension systems on two different vehicles, in which the work must involve two of the following:
 - suspension coil springs with modified spring rates
 - modified shock absorbers and struts
 - modified sway bars
 - modified suspension bushes
 - modified torsion bars.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to selecting and installing performance enhanced suspension system products, including procedures for managing stored energy in springs and torsion bars
- operating principles of suspension systems, including:
 - rigid and independent suspensions
 - sprung and unsprung mass
 - ride and curb height
- application, purpose and operation of performance enhanced suspension system products, including:
 - shock absorbers
 - coil springs, torsion bars and leaf springs
 - adjustable coil-overs

- rubber and urethane bushings
- sway bars and sway bar links
- strut mounts
- tower bars
- procedures for removing suspension system components
- requirements of Australian Design Rules (ADRs) relating to suspension systems
- procedures for fitting and adjusting performance enhanced suspension system components
- procedures for operating equipment to test suspension systems, including shock absorber testers
- suspension system road testing principles and 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 performance enhanced suspension system products that they have selected and installed, 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 workplace or simulated workplace
- workplace instructions
- manufacturer vehicle and suspension product specifications
- ADRs
- two vehicles requiring the installation of performance enhanced suspension system products
- tools, equipment and materials appropriate for selecting and installing performance enhanced suspension system products.

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