



Australian Government

AURTTD006 Remove and replace vehicle front suspension springs

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency

Application

This unit describes the performance outcomes required to remove and replace the front suspension springs of a vehicle. It requires the learner to plan and prepare the task; remove the springs and inspect them and associated components; replace the springs and check the vehicle ride height; and maintain the work area, tools and equipment.

It applies to those undertaking a Vocational Education and Training in Schools (VETiS) or pre-vocational qualification as preparation to entering the automotive service and repair or automotive manufacturing industry.

The unit is designed for use in a highly supervised context and is not suitable for use in a vocational qualification.

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

Competency Field

Mechanical Miscellaneous

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 italicised text is used, further information is detailed in the range of conditions section
1. Prepare to remove and replace vehicle front suspension springs	1.1 <i>Safety requirements</i> are sourced and interpreted 1.2 Task instruction is interpreted and vehicle suspension to be

ELEMENTS	PERFORMANCE CRITERIA
	worked on is identified 1.3 Manufacturer specifications and workplace procedures for removing and replacing suspension springs are sourced and interpreted 1.4 Potential hazards and risks associated with task are identified and reported to workplace supervisor 1.5 Tools and equipment required for suspension spring removal and replacement are identified according to manufacturer specifications
2. Remove and inspect front suspension springs	2.1 Tools, equipment and materials are selected and checked prior to use according to manufacturer specifications and safety requirements 2.2 Vehicle is prepared for suspension springs removal according to workplace procedures and safety requirements 2.3 Front suspension springs are removed according to workplace procedures and safety requirements, and without causing damage to components, tools or equipment 2.4 Front suspension spring components are arranged, identified and inspected according to manufacturer specifications 2.5 Results of inspecting front suspension spring components are recorded
3. Replace front suspension springs	3.1 Front suspension components are prepared for assembly 3.2 Front suspension is assembled according to workplace procedures, manufacturer specifications and safety requirements, and without causing damage to components, tools and equipment 3.3 Vehicle ride height is checked according to manufacturer specifications
4. Complete work processes	4.1 Final inspection is made to ensure work meets task instruction and workplace standards, and vehicle is presented ready for use or storage according to workplace procedures 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored according to environmental requirements and workplace procedures 4.3 Tools and equipment are checked and stored according to workplace procedures, or tagged and reported where necessary 4.4 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 criteria and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of vehicle suspension system information and suspension spring removal and replacement procedures.
Reading skills to:	- select and interpret key information from manufacturer specifications, safety requirements and workplace procedures to safely remove and replace vehicle front suspension springs - select and interpret key information from workplace procedures to ensure a clean and safe work site.
Writing skills to:	legibly and accurately fill out workplace documentation using correct industry terminology and conventions.
Oral communication skills to:	participate effectively in verbal exchanges using questioning and active listening to request, clarify and clearly convey information.
Numeracy skills to:	- read and interpret numerical information in suspension system information - use specialist tools and measuring equipment correctly, including tape measures, and report and record the results correctly using relevant mathematical symbols and conventions (e.g. mm for millimeters) - use basic mathematical operations, including addition and subtraction to calculate length.
Planning and organising skills to:	plan own work requirements and prioritise actions to achieve required outcomes.
Self-management skills to:	recognise own limitations when selecting and using tools and equipment and seek timely advice.
Problem-solving skills to:	- identify potential or actual hazards and take action to minimise risk - refer problems that cannot be readily resolved and seek assistance from workplace supervisor.
Technology skills to:	set up and operate equipment and tools required to remove and replace vehicle front suspension springs.

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:	• information about key aspects of work health and safety (WHS), occupational health and safety (OHS) and environmental requirements, including: • use of personal protective equipment, including safety glasses, ear protection and safety footwear • use of hand tools and lifting equipment.
<i>Tools, equipment and materials</i> must include:	• automotive hand tools • lifting and supporting equipment • related special tools, including spring compressors.
<i>Front suspension spring</i> must include:	• front suspension springs from one of the following: • passenger or light commercial vehicle • motor cycle • constructed vehicle.

Unit Mapping Information

No equivalent unit.

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 AURTTD006 Remove and replace vehicle front suspension springs

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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:

- correctly remove and replace the front suspension springs of at least two different vehicles.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- key aspects of work health and safety (WHS) and occupational health and safety (OHS) requirements, including:
 - dangers of working with stored energy in suspension springs
 - use of personal protective equipment, including safety glasses, ear protection and safety footwear
 - use of hand tools and lifting and supporting equipment
- types, application and basic operation of front suspension springs, including:
 - MacPherson strut
 - coil springs
- suspension spring removal procedures, including procedures for compressing springs
- suspension spring and associated component inspection procedures
- suspension spring replacement procedures, including ride height measurement procedures
- work area clean-up and maintenance requirements.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicles where they have removed and replaced front suspension springs, 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
- personal protective equipment appropriate to the workplace
- two vehicles with complete front suspension assemblies
- tools and special equipment, including lifting and supporting equipment.

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