



Australian Government

AURLTD006 Carry out light vehicle wheel alignment operations

Release: 1

AURLTD006 Carry out light vehicle wheel alignment operations

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to carry out light vehicle wheel alignment operations. It involves identifying and confirming work requirements, preparing for the work, carrying out pre-alignment inspection and wheel alignment, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The wheel alignment operations include those with light vehicles or light commercial vehicles. The unit does not apply to agricultural machinery, heavy commercial vehicles, mobile plant machinery or motorcycles.

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. Carry out wheel alignment pre-checks	1.1 Job requirements are determined from workplace instructions 1.2 Alignment pre-check information is sourced and interpreted 1.3 Hazards associated with the work are identified and risks are

Elements	Performance Criteria
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	managed 1.4 Alignment pre-checks of vehicle wheels, steering and suspension condition are carried out according to manufacturer specifications, workplace procedures and safety requirements 1.5 Faults are identified and reported according to workplace procedures as necessary
2. Carry out vehicle wheel alignment activities	2.1 Vehicle wheel alignment specifications are sourced and interpreted 2.2 Wheel alignment measuring equipment is connected to vehicle according to manufacturer specifications and workplace procedures 2.3 Wheel alignment is carried out without causing damage to components or systems, and readings are recorded 2.4 Corrective adjustments are carried out according to workplace procedures and safety requirements, and within manufacturer specifications 2.5 Wheel alignment is re-checked to confirm accuracy of adjustments 2.6 Post-adjustment wheel alignment readings are recorded and reported according to workplace procedures
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked and stored according to workplace procedures 3.4 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.

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Reading skills to:	- interpret safe operating procedures for wheel alignment equipment from workplace signs and procedures and manufacturer specifications - interpret information from manufacturer specifications and workshop literature when seeking vehicle wheel alignment specifications and procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting findings, making recommendations and recording vehicle pre-alignment checks and pre- and post-wheel alignment readings.
Numeracy skills to:	- measure steering and suspension system components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications - understand measurements in metric and imperial units of measurement and angles in degrees.
Planning and organising skills to:	select and prepare the appropriate tools and equipment to allow the job to be completed without time wastage.
Technology skills to:	use precision measuring wheel alignment 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 using air jacks.
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Unit Mapping Information

Equivalent to AURLTD3006 Carry out light vehicle wheel alignment operations

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 AURLTD006 Carry out light vehicle wheel alignment operations

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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:

- align all four wheels of:
 - one front wheel drive vehicle
 - one rear wheel drive vehicle
- above wheel alignment must include adjusting the following steering angles:
 - camber
 - caster
 - steering axis inclination (SAI)
 - toe (toe-in and toe-out)
 - toe-out on turns.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to light vehicle wheel alignment, including procedures for using air jacks
- application, purpose and operating principles of steering geometry and wheel alignment angles, including:
 - Ackermann principle of steering
 - camber
 - caster
 - SAI
 - thrust angle
 - toe-in and toe-out

- toe-out on turns
- included angle
- point of intersection
- scrub radius
- vehicle pre-alignment inspection procedures, including:
 - analysing tyre wear
 - determining wheel run-out
 - determining vehicle height
 - checking frame alignment
- types and operation of wheel alignment systems, including:
 - laser aligners
 - visual aligners
 - camera aligners
- relationships between fault symptoms and component defects
- procedures for measuring and adjusting steering angles, including:
 - camber
 - caster
 - steering axis inclination
 - thrust angle
 - toe
 - toe-out on turns
- procedures for carrying out four-wheel alignments
- steering system reset procedures to calibrate on-board system sensors with the steering geometry.

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 vehicle wheel alignments that they have carried out, 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 repair workplace or simulated workplace
- workplace instructions
- manufacturer wheel alignment specifications

- one front wheel drive light vehicle and one rear wheel drive light vehicle requiring the adjustments specified in the performance evidence
- wheel alignment equipment for light vehicles
- tools, equipment and materials appropriate for carrying out wheel alignment operations on light vehicles.

Links

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