



**Australian Government**

# **AURTTD001 Inspect steering systems**

**Release: 1**

# AURTTD001 Inspect steering systems

## Modification History

| Release   | Comment                 |
|-----------|-------------------------|
| Release 1 | New unit of competency. |

## Application

This unit describes the performance outcomes required to inspect and test steering system components and assess their condition. It involves preparing for the task, inspecting the system, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The steering systems are both mechanical and power assisted steering systems and include those of heavy commercial vehicles or light vehicles.

This unit applies to those inspecting steering systems prior to conducting a wheel alignment.

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 and italicised text is used, further information is detailed in the range of conditions section. |
| 1. Prepare to inspect steering system     | 1.1 Job requirements are determined from workplace instructions<br>1.2 Inspection information is sourced and interpreted<br>1.3 Hazards associated with the work are identified and risks are               |

| <b>Elements</b>                           | <b>Performance Criteria</b>                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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|                                           | managed<br>1.4 Tools, equipment and materials are selected and checked for serviceability                                                                                                                                                                                                                                                                                                               |
| 2. Inspect steering system                | 2.1 <b>Inspection</b> is carried out according to manufacturer specifications, workplace procedures and <b>safety requirements</b><br>2.2 Inspection results are compared with manufacturer specifications<br>2.3 Inspection findings are reported according to workplace procedures, including recommendations for necessary repairs or adjustments                                                    |
| 3. Complete work processes                | 3.1 Final inspection is made to ensure work is to workplace expectations and vehicle is presented ready for use<br>3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected<br>3.3 Tools and equipment are checked and stored according to workplace procedures<br>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.

| <b>Skills</b>                 | <b>Description</b>                                                                                                                                                                                                                             |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning skills to:           | <ul style="list-style-type: none"> <li>locate appropriate sources of information efficiently.</li> </ul>                                                                                                                                       |
| Reading skills to:            | <ul style="list-style-type: none"> <li>interpret information from manufacturer and workshop literature when seeking inspection procedures and specifications relating to steering systems.</li> </ul>                                          |
| Writing skills to:            | <ul style="list-style-type: none"> <li>legibly and accurately fill out documentation when reporting inspection findings and making recommendations.</li> </ul>                                                                                 |
| Oral communication skills to: | <ul style="list-style-type: none"> <li>clarify instructions</li> <li>report inspection findings to appropriate personnel.</li> </ul>                                                                                                           |
| Numeracy skills to:           | <ul style="list-style-type: none"> <li>compare component wear against manufacturer specifications and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from</li> </ul> |

| Skills                     | Description                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|
|                            | manufacturer specifications.                                                                                         |
| Problem solving skills to: | <ul style="list-style-type: none"><li>refer problems outside area of responsibility to appropriate person.</li></ul> |

## 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.

|                                                 |                                                                                                                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Inspection</i></b> must include:          | <ul style="list-style-type: none"><li>visual, aural and functional assessments of mechanical, hydraulic and electrical steering system components, including for damage, corrosion, wear and leakage.</li></ul> |
| <b><i>Safety requirements</i></b> must include: | <ul style="list-style-type: none"><li>work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for lifting and supporting vehicles.</li></ul>                   |

## Unit Mapping Information

Equivalent to AURTTD2001 Inspect steering systems

## 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 AURTTD001 Inspect steering systems

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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:

- inspect the following components of two different vehicle steering systems:
  - hydraulic components
  - steering column and couplings
  - steering linkages.

### Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting steering systems, including procedures for lifting and supporting vehicles
- identification and function of major steering components, including:
  - steering wheel, column and couplings
  - rack and pinion
  - steering box
  - power steering pump, pipes and hoses
  - steering linkages, including:
    - ball joints
    - tie rods and tie rod ends
    - idler arms
    - connecting rod, track rod or drag link
    - pitman arms
    - steering arms

- king pins
- basic operation of steering systems, including:
  - manual steering systems
  - power assisted steering systems
  - electronically controlled systems
- inspection and reporting procedures for steering systems and components, including:
  - component wear analysis
  - fluid leaks.

## 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 steering systems that they have inspected, e.g. work 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 steering system specifications
- two different vehicles with steering systems requiring inspection prior to wheel alignment
- tools, equipment and materials appropriate for inspecting steering systems.

## Links

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