



Australian Government

AURTTL104 Inspect and service LNG fuel systems

Release: 1

AURTTL104 Inspect and service LNG fuel systems

Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Application

This unit describes the skills and knowledge required to inspect and service liquefied natural gas (LNG) fuel systems. It involves preparing for the task, inspecting the system, reporting the inspection findings, servicing and adjusting the system, and completing workplace processes and documentation.

The unit applies to those working in the automotive service and repair industry. The LNG fuel systems include those of agricultural machinery, forklifts, heavy commercial vehicles, light vehicles or mobile plant machinery.

Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

Unit Sector

Mechanical Miscellaneous Technical – Alternative Fuels

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to inspect and service LNG fuel system	1.1 Determine job requirements from workplace instructions 1.2 Source and interpret servicing information 1.3 Identify hazards associated with work and manage risks according to safety and environmental requirements 1.4 Select and check tools, equipment and materials for serviceability
2. Inspect LNG fuel system	2.1 Carry out inspection according to manufacturer specifications, workplace procedures, safety requirements, and AS/NZS 2739 Natural gas (NG) fuel systems for vehicle engines 2.2 Compare inspection results with manufacturer specifications

ELEMENTS	PERFORMANCE CRITERIA
	2.3 Develop and report recommendations for necessary repairs or adjustments according to workplace procedures
3. Service LNG fuel system	3.1 Carry out service and adjustments according to manufacturer specifications, workplace procedures, AS/NZS 2739, and safety and environmental requirements, and without causing damage to components or systems 3.2 Carry out post-service testing according to workplace procedures
4. Complete work processes	4.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for use 4.2 Clear work area and dispose of or recycle materials according to workplace procedures 4.3 Complete documentation according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Learning	Locates required sources of information efficiently.
Numeracy	Uses basic mathematical operations, including addition and subtraction, to calculate service schedule intervals.
Oral communication	Clarifies instructions.
Reading	Interprets information from manufacturer and workshop literature when seeking service procedures and specifications relating to LNG fuel systems.
Problem solving	Refers problems outside area of responsibility to required person.

Unit Mapping Information

Supersedes and is equivalent to AURTTL004 Inspect and service LNG fuel system.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURTTL104 Inspect and service LNG fuel systems

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- inspect and service two different light vehicle, heavy commercial vehicle or forklift liquefied natural gas (LNG) fuel systems.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret information required to inspect and service LNG fuel systems, including:
 - information provided by customer and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to inspect and service LNG fuel systems, including:
 - establishing serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment
 - disposal of excess materials
 - recycling procedures
- work health and safety (WHS) requirements relating to inspecting and servicing LNG fuel systems, including procedures for:
 - working with a lighter-than-air flammable gas
 - avoiding cold burns
 - storing LNG

- environmental requirements, including procedures for preventing loss of gas to atmosphere
- licensing requirements for working on LNG systems
- identification and function of LNG fuel system components
- basic operation of LNG fuel systems
- requirements of AS/NZS 2739 Natural gas (NG) fuel systems for vehicle engines
- inspection procedures for LNG fuel systems, including:
 - leakage check
 - LNG container identity
 - container life
 - container recertification date
 - container corrosion and damage
 - container attachment
 - automatic fuel shut-off device
 - manual valves
 - compartment and sub-compartment refuelling connection
 - refuelling interlock device
 - flexible piping and hoses
 - ground clearances
 - vehicle identification, including identification markers
- service and adjustment procedures for LNG fuel systems, including checking compliance of fuel system emissions
- post-service testing procedures for LNG fuel systems.

Assessment Conditions

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 LNG fuel systems that they have worked on, 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
- AS/NZS 2739 Natural gas (NG) fuel systems for vehicle engines
- manufacturer servicing schedules and vehicle LNG fuel system specifications
- vehicles and machinery specified in the performance evidence with operating LNG fuel systems requiring servicing

- tools, equipment and materials appropriate for inspecting and servicing LNG fuel systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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