AS/NZS 2739:2009

Australian/New Zealand Standard™

Natural gas (NG) fuel systems for vehicle engines

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-046, Gas Fuel Systems for Vehicle Engines. It was approved on behalf of the Council of Standards Australia on 4 November 2008 and on behalf of the Council of Standards New Zealand on 25 February 2009.
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The following are represented on Committee ME-046:

Australian Automobile Association
Australian Industrial Truck Association
Department for Transport, Energy and Infrastructure, SA
Department of Mines and Energy, Qld
Energy Safety, WA
Engineers Australia
Federal Chamber of Automotive Industries
Gas Association of New Zealand
International Association for Natural Gas Vehicles
New Zealand Transport Agency
LPG Association of New Zealand
LPG Australia
Motor Trade Association, New Zealand
Motor Traders' Association of NSW
Motor Trades Association of Australia
Roads and Traffic Authority of NSW
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Australian/New Zealand Standard™

Natural gas (NG) fuel systems for vehicle engines

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-046, Gas Fuel Systems for Vehicle Engines, to supersede AS/NZS 2739:2003, *Natural Gas (CNG) fuel systems for vehicle engines.*

This edition introduces requirements for the installation of equipment used in fuelling engines with Liquefied Natural Gas (LNG). The term Compressed Natural Gas (CNG) has been removed from the title of this Standard so as to allow the introduction of LNG alongside CNG.

The document has been restructured to facilitate the introduction of LNG requirements alongside the requirements of CNG and a new section dealing exclusively with LNG.

The requirement for the maximum working operating pressure of 20 MPa for CNG containers has been removed to allow for the latest designs in container specifications. The Installation Compliance Plate requirement has been modified for consistency with AS/NZS 1425, *LP Gas fuel systems for vehicle engines*.

The 2003 edition had been expanded to include engine exhaust emission testing and acceptance of components complying with ISO 15500, Parts 1 to 20 and ECE R110. This Standard further incorporates changes to the requirements of exhaust emissions, which are simplified and include requirements for both CNG and LNG fuelled engines.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of appendix to which they apply. A normative appendix is an integral part of a Standard, whereas an informative appendix is for information and guidance.

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard specifies requirements for natural gas (NG) fuel systems for engines mounted on motor vehicles, either for the propulsion of the vehicles or for driving some auxiliary function, e.g. a mixer or a pump. It provides requirements for the design and construction of component parts, and for their installation in vehicles, and for tests, commissioning, and periodic inspection. It applies to all vehicle types, e.g. rigid chassis, articulated chassis and semitrailers.

This Standard does not cover the areas where major structural modifications are to be carried out to the vehicle. Prior to commencement of such work guidance should be sought from the vehicle manufacturer or a professional engineer who is experienced in the automotive disciplines.

This Standard does not apply to NG usage such as the gas supply system for appliances in caravans, mobile homes, forklifts, floor sweepers, polishers, tow tractors, elevating work platforms and industrial engines (refer to AS 4983) or for the propulsion of marine craft (refer to AS 4732).

1.2 OBJECTIVE

The objective of this Standard is to provide designers, manufacturers, installers and regulatory authorities with technical requirements for natural gas fuel systems for vehicle engines so as to provide functional, safe installations.

1.3 REFERENCED DOCUMENTS

A list of the Standards referenced in this Standard is given in Appendix A.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.4.1 Approved, approval

Approved by or approval of the regulatory authority.

1.4.2 Authority

The authority having statutory powers to control any aspect of the design, manufacture, installation and use of equipment described in this Standard in the country, state or territory in which the vehicle is registered.

1.4.3 Authorized person

In Australia—a person who has completed an authorized training course and is licensed/registered by the relevant statutory authority to install or service natural gas equipment in automotive vehicles.