

Australian Standard<sup>®</sup>

**Gas fuel systems for forklifts and  
industrial engines**



This Australian Standard® was prepared by Committee ME-046, Gas Fuel Systems for Vehicle Engines. It was approved on behalf of the Council of Standards Australia on 16 December 2009.

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The following are represented on Committee ME-046:

- Australian Automobile Association
  - Australian Industrial Truck Association
  - Department for Premier and Cabinet, SA
  - Department for Transport, Energy and Infrastructure, SA
  - Department of Mines and Energy, Qld
  - Energy Safety, WA
  - Engineers Australia
  - Federal Chamber of Automotive Industries
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  - International Association for Natural Gas Vehicles
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  - 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
  - TAFE NSW
  - Victorian Police
- 

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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**Gas fuel systems for forklifts and  
industrial engines**

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## PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee ME-046, Gas Fuel Systems for Vehicle Engines to supersede AS 4983—2003, *Gas fuel systems for forklifts and industrial engines*.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The 2009 edition of this Standard incorporates changes to LP Gas low pressure hosing not exceeding 450 kPa in Section 5. It also clarifies that this Standard does not apply to LNG fuel supply systems. It is now a requirement to fit an indexing pin to ensure correct container selection and orientation when a LP Gas container is removable. References to ‘cylinders’ have been changed to ‘containers for CNG’.

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

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**STANDARDS AUSTRALIA****Australian Standard**  
**Gas fuel systems for forklifts and industrial engines****SECTION 1 SCOPE AND GENERAL****1.1 SCOPE AND APPLICATION****1.1.1 Scope**

This Standard specifies requirements for liquefied petroleum gas (LP Gas) and compressed natural gas (CNG) fuel systems for engines mounted on industrial equipment, either for the propulsion of the equipment 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 equipment, and for tests, commissioning and periodic inspection.

The Standard applies to fixed installations, mobile and portable equipment such as forklifts, floor sweepers, polishers, tow tractors, elevating work platforms and industrial engines.

NOTE: For installations to industrial stationary engines connected to a reticulated fuel supply, reference should be made to AS 3814 or AS/NZS 1596 for storage and handling or AS 5601 for gas installations.

This Standard does not apply to other LP Gas or CNG usage, such as the gas supply system for appliances in caravans, mobile homes or for the propulsion of marine craft or passenger or commercial vehicles.

This Standard does not apply to Liquefied Natural Gas (LNG) fuel supply systems.

This Standard does not cover the areas where major structural modifications are to be carried out to the industrial equipment (major structural modifications are those not defined in Clause 1.6). Prior to commencement of such work, guidance should be sought from the equipment manufacturer or a professional engineer who is experienced in the relevant disciplines.

**1.1.2 Application**

The relevant authority having jurisdiction may determine the extent of application of this Standard.

**1.2 OBJECTIVE**

The objective of this Standard is to provide designers, manufacturers, installers and regulatory authorities with technical testing, inspecting and certification requirements for LP Gas and CNG fuel systems for forklifts and industrial engines so as to provide functional, safe installations.

**1.3 REFERENCED DOCUMENTS**

A list of the documents referred to in this Standard is given in Appendix A.

**1.4 NEW DESIGNS AND INNOVATIONS**

Any alternative materials, equipment, designs, method of assembly or procedures, that do not comply with the specific requirements of this Standard, or are not mentioned in it, but which give equivalent results to those specified, may be acceptable. Under such conditions the regulatory authority can give advice on the procedure for approval.