AS 4430.2—2004

Australian Standard™

Evaluation of devices, additives and processes which claim to improve vehicle performance

Part 2: Spark ignition engine system

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee ME-020, Internal Combustion Engines. It was approved on behalf of the Council of Standards Australia on 26 October 2004.
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The following are represented on Committee ME-020:

Australian Automobile Association
Australian Automotive Aftermarket Association
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Institute of Petroleum
Construction and Mining Equipment Association of Australia
Department of Environment and Heritage (Federal)
Federation of Automotive Products Manufacturers
Tractor and Machinery Association of Australia
University of Melbourne
Victorian Automobile Chamber of Commerce

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-020, Internal Combustion Engines.

Of the interests represented on the Committee located on the inside front cover, the Australian Automotive Aftermarket Association (AAAA) did not support the publication of this Standard.

This Standard is Part 2 of AS 4430, *Evaluation of devices, additives and processes which claim to improve vehicle performance*, which is published in part as follows:

Part 1: Engines designed for leaded petrol to operate on regular unleaded petrol.

Part 2: Spark ignition engine system (this Standard).

Part 3: Compression ignition engine system.*

This Standard primarily applies to spark ignition engines used in road vehicles but is equally applicable to engines used in other applications.

Meeting a claim defined in this Standard does not constitute a legal imprimatur for the sale or use of that product, device or process; for example, legislation on hazardous substances or emissions may prohibit the sale or use of a product.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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* To be published.

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FOREWORD

From time to time proprietary devices, additives and processes come onto the market claiming to improve the engine system performance of spark ignition engines.

The need for this Standard arises from the lack of a means to verify these claims.

This Standard specifies test procedures and performance requirements to verify engine system performance claims in the following areas:

(a) Fuel consumption.

(b) Knock.

(c) Noise.

(d) Power improvement.

(e) Exhaust emissions and smoke.

(f) Starting (hot and cold).

(g) Smooth running.

(h) VSR protection.

(i) Octane rating.

AS 4430.1 sets out requirements for the evaluation of claims that a device, additive or process allows a leaded petrol engine to operate on regular unleaded petrol.

AS 44030.3 sets out requirements for the evaluation of claims that a device, additive or process can improve the performance of a compression ignition engine system.

STANDARDS AUSTRALIA

Australian Standard

Evaluation of devices, additives and processes which claim to improve vehicle performance

Part 2: Spark ignition engine system

1 SCOPE

This Standard specifies test procedures and performance requirements for evaluating claims that a device, additive or process can improve the performance of a spark ignition engine system.

This Standard is applicable to all M and N category spark ignition engine motor vehicles with a GVM less than or equal to 3.5 tonnes, as defined in the Australian Design Rules (ADRs).

2 OBJECTIVE

This Standard is intended to provide a means of evaluating claims made by suppliers of devices, additives and processes that their product will improve the performance of a spark ignition engine.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
4430	Evaluation of devices, additives and processes which claim to improve vehicle performance
4430.1	Part 1: Engines designed for leaded petrol to operate on regular unleaded petrol
4594	Internal combustion engines—Performance
4594.7	Part 7: Engines for land, rail-traction and marine use—Code for engine power
ADR*	Australian Design Rules for Motor Vehicles and Trailers
28/01	External noise of motor vehicles
79/01	Emission control for light vehicles
81/01	Fuel consumption labelling for light vehicles
83/00	External noise
ASTM	
D2699	Test method for research octane number of spark-ignition engine fuel
CRC	Coordinating Research Council
E15-96	Technique for determination of octane number requirements of light vehicles
USEPA	United States Environment Protection Agency
IM240	IM240 and Evap Technical Guidance

* Australian Design Rules specify national design standards for certification of new motor vehicles. ADRs are made under the *Motor Vehicle Standards Act 1989*. These references refer to the version of the design rule against which the engine system was originally certified.