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Australian Standard®
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INTERNAL COMBUSTION ENGINES—PERFORMANCE

Part 10—ENGINES FOR MOTORCYCLE USE—TEST CODE, NET POWER

STANDARDS ASSOCIATION OF AUSTRALIA
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The following interests are represented on Committee ME/20:

Australian Assembly of Fire Authorities
Australian Chamber of Commerce
Building Owners and Managers Association of Australia Ltd
Confederation of Australian Industries
Construction Equipment Importers and Manufacturers of Australia
Department of Agriculture and Rural Affairs, Victoria
Department of Defence
Electricity Supply Association of Australia
Federal Chamber of Automotive Industries
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Institution of Engineers, Australia
Metal Trades Industry Association of Australia
National Farmers Federation
Society of Automotive Engineers—Australasia
State Insurance Office, Victoria
Tractor and Machinery Association of Australia
University of Melbourne
Victoria Police

This standard was issued in draft form for comment as DR 85251.

AS 2789 Parts 0-10 supersedes AS1501 - 1976

AS 2789 Parts 1-6 were published in May 1985 and in the May 1985 TAS they were given as superseding AS 1501 - 1976 which was withdrawn.

AS 2789 Parts 0 and 7-10 were published in May 1986. Information received from the technical officer, Peter Moore, is that they do supersede in part AS 1501-1976 but no information to that effect was given in the May 1986 TAS.

AUSTRALIAN STANDARD

INTERNAL COMBUSTION ENGINES—PERFORMANCE

Part 10 ENGINES FOR MOTORCYCLE USE— TEST CODE, NET POWER

AS 2789.10—1986

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PREFACE

This standard was prepared by the Association's Committee on Internal Combustion Engines. It supersedes (in part) AS 1501—1976, Method for Rating and Testing of Internal Combustion Engines. It is one of a series of 11 standards on the performance of internal combustion engines of which ten are identical with and have been reproduced from International Standards ISO 3046/1, ISO 3046/2, ISO 3046/3, ISO 3046/4, ISO 3046/5, ISO 3046/6, ISO 1585, ISO 2543, ISO 2288 and ISO 4106.

The complete series constitutes a replacement for AS 1501—1976.

The standards in the series are as follows:

AS 2789.0 Internal Combustion Engines—Performance, Part 0—Application

AS 2789.1 Internal Combustion Engines—Performance, Part 1—Engines for Land, Rail Traction, and Marine Use—Standard Reference Conditions and Declarations of Power, Fuel Consumption and Lubricating Oil Consumption

AS 2789.2 Internal Combustion Engines—Performance, Part 2—Engines for Land, Rail Traction, and Marine Use—Test Methods

AS 2789.3 Internal Combustion Engines—Performance, Part 3—Engines for Land, Rail Traction, and Marine Use—Test Measurements

AS 2789.4 Internal Combustion Engines—Performance, Part 4—Engines for Land, Rail Traction, and Marine Use—Speed Governing

AS 2789.5 Internal Combustion Engines—Performance, Part 5—Engines for Land, Rail Traction, and Marine Use—Torsional Vibrations

AS 2789.6 Internal Combustion Engines—Performance, Part 6—Engines for Land, Rail Traction, and Marine Use—Overspeed Protection

AS 2789.7 Internal Combustion Engines—Performance, Part 7—Engines for Road Vehicle Use—Test Code, Net Power

AS 2789.8 Internal Combustion Engines—Performance, Part 8—Engines for Road Vehicle Use—Test Code, Gross Power

AS 2789.9 Internal Combustion Engines—Performance, Part 9—Engines for Agricultural Tractor and Machine Use—Test Code, Net Power

AS 2789.10 Internal Combustion Engines—Performance, Part 10—Engines for Motorcycle Use—Test Code, Net Power

The series of standards applies to internal combustion engines for land, rail-traction, and marine use, including engines used to propel agricultural tractors, road construction and earthmoving machines, road vehicles, and motor cycles.

For the purpose of this Australian standard, the text of the ISO standard used herein should be modified as follows:

(a) *Terminology:* The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.

(b) *Decimal Sign:* A dot on the line should replace the comma wherever it appears as a decimal sign.

(c) *Cross-references:* The reference to the International Standard should be replaced by a reference to the Australian Standard as follows:

Reference to International Standard	*Appropriate Australian Standard*
ISO 1585, Road vehicles—Engine test code—Net power	AS 2789.7, Internal Combustion Engines—Performance, Part 7—Engines for Road Vehicle Use—Test Code, Net Power

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INTERNAL COMBUSTION ENGINES—PERFORMANCE

PART 10—ENGINES FOR MOTORCYCLE USE—TEST CODE, NET POWER

1 SCOPE

This International Standard specifies a method for testing engines designed for motorcycles, as defined in ISO 3833 (item 3.5), applicable to the evaluation of their performances with a view, in particular, to presenting curves of power and specific fuel consumption at full load as a function of engine rotational frequency.

It applies only to the net power study.

2 FIELD OF APPLICATION

This International Standard concerns internal combustion engines used for propulsion of mass production motorcycles (excluding racing motorcycles) normally travelling on roads and included in one of the following categories :

- internal combustion engines (spark ignition) but excluding free piston engines;
- rotary piston engines.

Engines fitted with a supercharging device using a mechanical supercharger or a turbo-charger are not covered by this International Standard.

3 REFERENCES

ISO 1585, *Road vehicles — Engine test code — Net power.*

ISO 3833, *Road vehicles — Types — Terms and definitions.*

4 DEFINITIONS

4.1 net power : The power obtained (generally after having been transmitted through the reduction gear, clutch and top gear of the transmission) on a test bed at the power take-off shaft or its equivalent, at the engine rotational frequency specified by the manufacturer, the engine being equipped with the standard production auxiliaries necessary to its operation for the particular application.

4.2 torque : The crankshaft torque, calculated after measurement under the same conditions as specified in 4.1.

4.3 specific fuel consumption : The amount of fuel consumed per unit of power output and per hour. The amount of the lubricants must be excluded when they are used with a mixture of fuels.

4.4 auxiliaries : The equipment and devices listed in table 1.

4.5 standard production equipment : Any equipment normally provided by the manufacturer for a particular engine application.

5 ACCURACY OF MEASUREMENTS

5.1 Torque

The dynamometer must be such that the first one-eighth of its scale is not used. It must give an accuracy within ± 0,5 % of the maximum scale value.

5.2 Engine rotational frequency

The accuracy of the measured value shall be ± 0,5 %.

5.3 Fuel consumption

± 1 % overall for the apparatus used.

5.4 Engine inlet air temperature

± 1 °C.

5.5 Barometric pressure

± 70 Pa (0,70 mbar)*.

5.6 Pressure in exhaust extraction duct

± 25 Pa (0,25 mbar)*.

* 1 bar = 10^5 Pa