

Australian Standard™

**Internal combustion engines—  
Performance**

**Part 11: Engines for motorcycle  
use—Test code, net power**

[ISO title: Motorcycles—Engine test code—Net power]

This Australian Standard was prepared by Committee ME/20, Internal Combustion Engines. It was approved on behalf of the Council of Standards Australia on 30 June 1999 and published on 5 August 1999.

---

The following interests are represented on Committee ME/20:

Australian Automobile Association  
Australian Automotive Aftermarket Association  
Australian Industry Group  
Australian Institute of Petroleum  
Construction & Mining Equipment Association of Australia  
Electricity Supply Association of Australia  
Environment Australia  
Environment Protection Authority, N.S.W.  
Federation of Automotive Products Manufacturers  
Institution of Engineers Australia  
University of Melbourne  
Victoria Automobile Chamber of Commerce

---

**Review of Australian Standards.** *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

*Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.*

*Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.*

---

*This Standard was issued in draft form for comment as DR 99068.*

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

Australian Standard™

**Internal combustion engines—  
Performance**

**Part 11: Engines for motorcycle  
use—Test code, net power**

Originated as part of AS B215—1966.  
Final edition AS 2789.10—1986.  
Revised and redesignated as AS 4594.11—1999.

Published by Standards Australia  
(Standards Association of Australia)  
1 The Crescent, Homebush, NSW 2140

ISBN 0 7337 2853 7

## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME/20, Internal Combustion Engines to supersede AS 2789.10—1986. It is identical with and has been reproduced from ISO 4106:1993, *Motorcycles—Engine test code—Net power*.

The Standards in the series are as follows:

## AS

4594	Internal combustion engines—Performance
4594.0	Part 0: Application
4594.1	Part 1: Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and test methods
4594.3	Part 3: Engines for land, rail-traction and marine use—Test measurements
4594.4	Part 4: Engines for land, rail-traction and marine use—Speed governing
4594.5	Part 5: Engines for land, rail-traction and marine use—Torsional vibrations
4594.6	Part 6: Engines for land, rail-traction and marine use—Overspeed protection
4594.7	Part 7: Engines for land, rail-traction and marine use—Codes for engine power
4594.8	Part 8: Engines for road vehicle use—Test code, net power
4594.9	Part 9: Engines for road vehicle use—Test code, gross power
4594.10	Part 10: Engines for agricultural tractor and machine use—Test code, net power
4594.11	Part 11: Engines for motorcycle use—Test code, net power (this Standard).

An application Standard, AS 4594.0 has been produced to be read in conjunction with these Standards to indicate inconsistencies within the adopted ISO Standards.

As this Standard is reproduced from an International Standard the following applies:

- Terminology* The words ‘this Australian Standard’ should replace the words ‘this International Standard’ whenever they appear.
- Decimal comma* The decimal point should replace the decimal comma wherever it appears.
- Cross-references* The reference to International Standards should be replaced by references to Australian Standards as follows:

<i>Reference to International Standard</i>	<i>Australia Standard</i>
ISO	AS
2710	—
	Reciprocating internal combustion engines—Vocabulary
3833	—
	Road vehicles—Types—Terms and definitions

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

## AUSTRALIAN STANDARD

# Internal combustion engines—Performance

## Part 11:

### 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 3833:1977, definition 3.5. It applies to the evaluation of their performance with a view, in particular, to presenting curves of power and specific fuel consumption at full load as a function of engine rotational speed.

It applies only to net power assessment.

This International Standard concerns internal combustion engines used for propulsion of motorcycles and included in one of the following categories:

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

These engines may be naturally aspirated or pressure-charged, either using a mechanical supercharger or turbocharger.

#### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2710:1978, *Reciprocating internal combustion engines — Vocabulary*.

ISO 3833:1977, *Road vehicles — Types — Terms and definitions*.

#### 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 2710 and ISO 3833 and the following definitions apply.

**3.1 net power:** Power obtained on a test bench at the end of the crankshaft or its equivalent<sup>1)</sup> at the corresponding engine speed with the equipment and auxiliaries listed in table 1.

**3.2 torque:** Torque measured under the same conditions as defined in 3.1.

**3.3 specific fuel consumption:** Amount of fuel consumed per unit of power output and per hour, with the amount of the lubricants excluded when they are used with a mixture of fuels.

---

1) If the power measurement can only be carried out with a mounted gear-box, the losses in the gear-box should be added to the measured power to give the engine power.