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Australian Standard®

Pedal bicycles for normal road use—Safety requirements



STANDARDS AUSTRALIA 

This Australian Standard was prepared by Committee CS/10, Pedal Bicycles. It was approved on behalf of the Council of Standards Australia on 9 March 1989 and published on 19 May 1989.

The following interests are represented on Committee CS/10:

Attorney General's Department
Australia Post
Australian Amateur Cycling Federation
Australian Chamber of Commerce
Australian Consumers Association
Australian Federation of Consumer Organizations
Australian Retailers Association
Bicycle Federation of Australia
Business and Consumer Affairs, N.S.W.
Confederation of Australian Industry
Consumer Affairs Bureau, Qld
Consumer Affairs Council, Tas.
Department of Consumer Affairs, W.A.
Department of Public and Consumer Affairs, S.A.
Department of Transport and Communication (Commonwealth)
Metal Trades Industry Association of Australia
Ministry of Consumer Affairs, Vic.
Retail Cycle Traders, Australia
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Road Trauma Committee
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Australian Standard®

**Pedal bicycles for normal road
use—Safety requirements**

First published as AS 1927—1976.
Second edition 1978.
Third edition 1985.
Fourth edition 1989. ✓

PREFACE

This Standard was prepared by the organization's Committee on Pedal Bicycles to supersede AS 1927—1985.

The Standard was first published in 1976 following submissions from the Australian Consumers Association and the New South Wales Consumer Affairs Council. It was revised in 1978 and amended in 1980 prior to its being gazetted as a safety Standard under the Trade Practices Act.

The Standard specifies the performance requirements both for the bicycle as a whole and for the individual components and assemblies upon which the safety of the cyclist is dependent.

This edition incorporates changes deemed necessary in the light of experience gained through the mandatory use of the 1985 edition. The major changes and the rationale for them are as follows:

- (a) The definition for partially assembled bicycles has been expanded to allow further components to be detached from the bicycle frame.
- (b) The maintenance section of the owner's manual has been expanded to include the adjustment, use, and operation of quick-release devices where fitted.
- (c) A new static load test for wheels has been incorporated as a means of determining the resistance to buckling of the rim.

Lighting requirements were also considered, but have not been specified, because lighting is covered by traffic regulations and because no Australian Standard exists at present for bicycle lights. However, as an interim measure, consideration was given to specifying that lights, where fitted, should comply with the appropriate British Standards. A technical working group set up to evaluate the relevance of those Standards to the Australian road environment decided that they were not suitable; therefore, no reference will be made to lights until an Australian Standard for bicycle lights, now in the process of development, is published.

The mounting specification for the rear reflector is vital to its effectiveness and care is needed to ensure that it is mounted within the height range specified so that it is not obstructed from view by accessories or by the rider's clothing.

The fully assembled bicycle is required to comply with the safety aspects of the design specified in Section 2 and the safety performance requirements specified in Section 3. In addition, some individual components and assemblies shall comply with the test requirements specified in Section 4.

In developing this Standard, the committee considered the requirements specified in the regulations introduced by the Consumer Products Safety Commission in the United States of America, and ISO 4210, *Cycles—Safety requirements of bicycles*, and Draft Amendment No 1 to ISO 4210.

The requirements of this Standard differ substantially from those specified in ISO 4210. Changes in some test methods were not considered to be justifiable for the following technical and economic reasons:

- (a) Consideration was given to adopting the impact tests for the frame and fork and the kinetic and static load tests on pedals; however when the results of tests carried out using the ISO and Australian methods were compared, the existing tests were considered to be equally effective.
- (b) Testing to AS 1927—1978 has been carried out, and a number of manufacturers have bought or fabricated test rigs for this purpose.

AS 1927-89
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STANDARDS AUSTRALIA

Australian Standard

Pedal bicycles for normal road use—Safety requirements

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard specifies safety requirements for the design, assembly, and performance of all types of pedal bicycles and subassemblies of pedal bicycles for normal road use, other than those having a wheelbase of less than 640 mm.

It also specifies requirements for the instructions to be given in a manual on use and maintenance, and for the instructions for the assembly of bicycles offered for sale in a partially assembled state.

NOTE: Bicycles having a wheelbase of less than 640 mm are covered by AS 1647.2.

Bicycles designed for use both on and off the road are covered by this Standard for road use only.

1.2 APPLICATION. All bicycles offered for sale are required to comply with the safety aspects of the design specified in Section 2 and the safety performance requirements specified in Section 3. In addition, some individual components and assemblies shall comply with the requirements specified in Section 4.

1.3 REFERENCED DOCUMENTS. The following documents are referred to in this Standard:

AS	
1647	Childrens toys—Safety requirements
1647.2	Part 2: Constructional requirements
2142	Reflectors for pedal bicycles

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

1.4.1 Bicycle—a two-wheeled pedal vehicle that is solely human-powered.

1.4.2 Children's bicycle—a bicycle having a wheel base of between 640 mm and 765 mm.

NOTE: Except where stated otherwise, the term 'bicycle' as used in this Standard includes children's bicycles.

1.4.3 Wheelbase—the distance measured horizontally between the centres of the front and back axles or, for bicycles having an adjustable wheelbase, from the centre of the front axle to the centre of the back axle in the central position of possible adjustment.

1.4.4 Partially assembled bicycle—a bicycle that is complete and assembled to the stage where one or more of the following components are detached from the frame:

- (a) Pedals.
- (b) Front wheel.
- (c) Front mudguard.
- (d) Handlebars.
- (e) Handlebar stem.
- (f) Warning device.
- (g) Handlebar grips.

- (h) Brake levers.
- (i) Gear levers (if fitted).
- (j) Seat.
- (k) Seat pillar.
- (l) Front reflector.
- (m) Front reflector bracket.
- (n) Rear reflector.
- (o) Rear reflector bracket.

1.4.5 Seat height—the distance from the point on the seat surface intersected by the seat pillar centreline (or the centre of the seating area if no seat pillar exists) and the ground plane, when the wheels are aligned and in a plane normal to the ground plane.

1.4.6 Normal riding position—the position of the rider seated on the bicycle with both feet on the pedals and both hands on the handlegrips (and in a position that allows operation of handbrake levers), the seat and handlebars having been adjusted to positions judged by the rider to be comfortable.

1.5 MARKING. Pedal bicycles shall be permanently and legibly marked with the following:

- (a) Name of the manufacturer of the pedal bicycle.
- (b) The identification number of the pedal bicycle. The identification number shall be stamped or engraved on the bicycle frame.

NOTE: Manufacturers making a statement of compliance with this Australian Standard on a product, or on packaging or promotional material related to that product, are advised to ensure that such compliance is capable of being verified.

Independent certification is available from Standards Australia under the StandardsMark Product Certification Scheme. The StandardsMark, shown below, is a (registered) certification trade mark owned by Standards Australia and granted under licence to manufacturers whose products comply with the requirements of suitable Australian Standards and who operate sound quality assurance programs to ensure consistent product quality.

Further information on product certification and the suitability of this Standard for certification is available from Standards Australia's Quality Assurance Services, 80 Arthur Street, North Sydney, N.S.W., 2060.



1.6 INFORMATIVE LABELLING.

1.6.1 General. Bicycles which require either adjustment or attachment and adjustment of components shall carry informative labelling complying with