



Standard Classification for Bicycle Usage¹

This standard is issued under the fixed designation F2043; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This classification covers bicycle usage conditions and a method of identifying bicycles and components for use within that system.

1.2 The values stated in SI units are to be regarded as the standard. The values in parentheses are for information only.

2. Referenced Documents

2.1 *Federal Standard*.²

16 CFR 1512 Title 16—Commercial Practices, Chapter 11—Consumer Product Safety Commission, Part 1512—Requirements for Bicycles

3. Terminology

3.1 *Definitions*:

3.1.1 *aftermarket, n*—components intended for use on a bicycle but not included as original equipment with the bicycle.

3.1.2 *bicycle, n*—two-wheeled, single-track, articulated vehicle with pedals and seat that is solely human powered.

3.1.3 *components, n*—devices or equipment added to a bicycle frame to render it a complete, functional unit (for example, brakes, shifters, gears, and so forth).

3.1.4 *conditions, n*—generalized description of surface environments or speeds where a bicycle may be ridden.

3.1.5 *drop, n*—event when only a single wheel leaves the ground at a time for a lower elevation in which the height of the drop is the maximum height above the landing surface of the lowest spot on the tire.

3.1.6 *jump, n*—event when both bicycle wheels leave the ground in which the height of a jump is the maximum height above ground of the lowest point of the higher wheel when both wheels are off the ground.

¹ This classification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.10 on Bicycles.

Current edition approved Nov. 1, 2013. Published December 2013. Originally approved in 2000. Last previous edition approved in 2009 as F2043 – 09. DOI: 10.1520/F2043-13.

² Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

3.1.7 *sidewalk bicycle, n*—bicycle meeting the definition of a sidewalk bicycle as defined in 16 CFR 1512.

3.1.8 *technical skill, n*—advanced riding technique that requires rapid changes in speed, direction, and balance.

4. Significance and Use

4.1 This classification provides a uniform set of usage definitions within the bicycle industry. Included within this classification is a set of graphical indicators to provide retailers and consumers with an indication of the intended use of a particular bicycle or aftermarket components.

5. Basis of Classification

5.1 *Uses*:

5.1.1 *Condition 0*—This is a set of conditions for operation of a children’s bicycle under appropriate parental supervision in a manner consistent with the child’s bicycling skills. Bicycles intended for this use are “sidewalk bicycles.” In addition, bicycles intended for this condition are limited to riders at least three years old and weighing less than 36 kg (80 lb). Bicycles intended for this use classification shall be identified in accordance with the labeling requirements of Section 6 using the graphical symbol (icon) illustrated in Fig. 1. The icon in this figure is black on a white background with a black border.

5.1.2 *Condition 1*—This is a set of conditions for the operation of a bicycle on a regular paved surface where the tires are intended to maintain ground contact. Bicycles intended for this use classification shall be identified in accordance with the labeling requirements of Section 6 using the graphical symbol (icon) illustrated in Fig. 2. The icon in this figure is green on a white background with a black border.

5.1.3 *Condition 2*—This is a set of conditions for the operation of a bicycle that includes Condition 1 as well as unpaved and gravel roads and trails with moderate grades. In this set of conditions, contact with irregular terrain and loss of tire contact with the ground may occur. Drops are intended to be limited to 15 cm (6 in.) or less. Bicycles intended for this use classification shall be identified in accordance with the labeling requirements of Section 6 using the graphical symbol (icon) illustrated in Fig. 3. The icon in this figure is green on a white background with a black border.

5.1.4 *Condition 3*—This is a set of conditions for operation of a bicycle that includes Condition 1 and Condition 2 as well



FIG. 1 Condition 0 Icon



FIG. 3 Condition 2 Icon



FIG. 2 Condition 1 Icon



FIG. 4 Condition 3 Icon

as rough trails, rough unpaved roads, and rough terrain and unimproved trails that require technical skills. Jumps and drops are intended to be less than 61 cm (24 in.). Bicycles intended for this use classification shall be identified in accordance with the labeling requirements of Section 6 using the graphical symbol (icon) illustrated in Fig. 4. The icon in this figure is blue on a white background with a black border.

5.1.5 *Condition 4*—This is a set of conditions for operation of a bicycle that includes Conditions 1, 2, and 3, or downhill grades on rough trails at speeds less than 40 km/h (25 mph), or both. Jumps are intended to be less than 122 cm (48 in.). Bicycles intended for this use classification shall be identified in accordance with the labeling requirements of Section 6 using the graphical symbol (icon) illustrated in Fig. 5. The icon in this figure is black on a white background with a black border.

5.1.6 *Condition 5*—This is a set of conditions for operation of a bicycle that includes Conditions 1, 2, 3, and 4; extreme jumping; or downhill grades on rough trails at speeds in excess of 40 km/h (25 mph); or a combination thereof. Bicycles intended for this use classification shall be identified in accordance with the labeling requirements of Section 6 using the graphical symbol (icon) illustrated in Fig. 6. The icon in this figure is black on a white background with a black border.

6. Labeling

6.1 Bicycle frames shall bear a permanent representation of the graphical indicator (icon) depicting the appropriate use condition in a conspicuous location. That marking shall be at least 30 mm (1.2 in.) square in size. The icons depicted in Fig. 1, Fig. 2, Fig. 3, Fig. 4, and Fig. 5 are shown with the optional



FIG. 5 Condition 4 Icon



FIG. 6 Condition 5 Icon

numerical indicator of the particular use classification. Those numbers are considered optional and may be omitted from the bicycle label, owner’s manual, instructions, packaging, or components, or a combination thereof.

6.2 The manual or instructions included with the bicycle shall contain a summary of the descriptions in Section 5 and the associated graphical indicators (icons) as shown in Fig. 1, Fig. 2, Fig. 3, Fig. 4, and Fig. 5 for all use conditions defined in this classification. The manual or instructions will be considered in compliance with this classification even when

not printed in color. The manual shall also explain that riding in higher-numbered conditions increases the forces on the bicycle and the risk of injury to the rider.

6.3 Bicycles sold in a carton shall have printed on the carton or a label affixed to the carton the graphical indicator of the intended use as well as the description of that use.

7. Keywords

7.1 bicycle; classification; use

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; http://www.copyright.com/