



Standard Safety Specification for Stationary Exercise Bicycles¹

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1. Scope

1.1 This safety specification covers the safety design features of stationary exercise bicycles. The device shall be assembled in accordance with the manufacturer's instructions for safe use.

1.2 This standard is limited to exercise bicycles of:

1.2.1 *Class A*—Non-free-wheeling exercise bicycles with a directly driven flywheel.

1.2.2 *Class B*—Free-wheeling exercise bicycles.

1.2.3 *Class C*—Ergometer bicycles, or, those bicycles used to precisely measure work.

1.2.4 *Class D*—Units designed to convert road bicycles to stationary exercise bicycles.

1.3 This specification is intended to reduce the demonstrated hazards associated with the use of stationary exercise bicycles.

1.4 This specification is written to provide reasonable safety standards for the user of stationary exercise bicycles during storage, movement, entry, use, and exit from the product.

1.5 *This standard does not purport to address all the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

F 1749 Specification for Fitness Equipment Facility Safety Signage and Labels²

3. Terminology

3.1 *Definitions:*

3.1.1 *consumer exercise bicycle, n*—stationary exercise bicycle intended for use by one person or family unit in a home environment.

3.1.2 *flywheel, n*—a heavy wheel for opposing and moderating, by its inertia, fluctuations of speed in the exercise bicycle on which it revolves.

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² *Annual Book of ASTM Standards*, Vol 15.07.

A - Load Speed Indicators	H - Handlebar Stem
B - Load Adjustment	I - Handlebar Adjustment
C - Seat Post	J - Drive Housing
D - Seat Adjustment	K - Crank Arm
E - Seat Tube	L - Pedals
F - Seat	M - Pedals
G - Handlebar	N - Flywheel

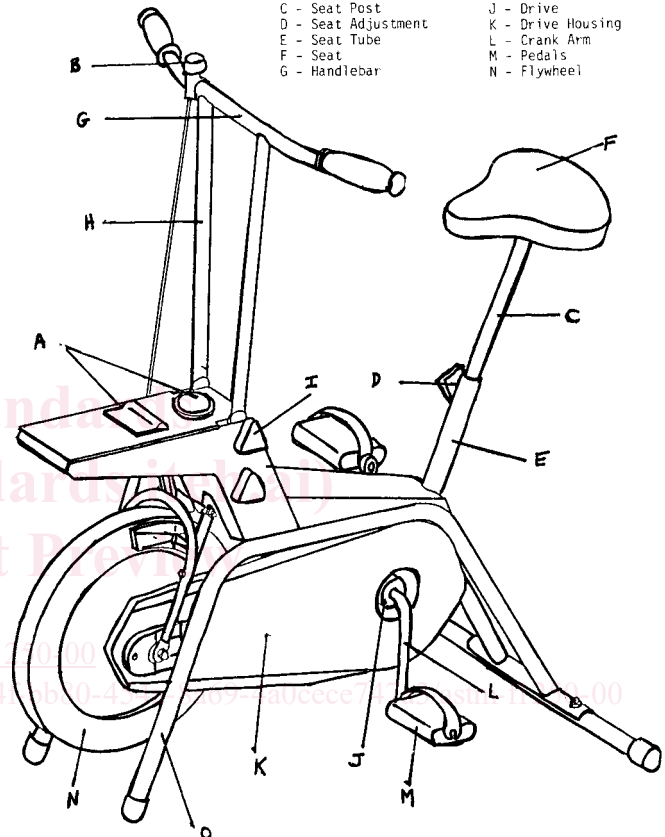


FIG. 1 Illustration of Bicycle Terms

3.1.3 *freewheel, n*—a device that allows the driver bicycle wheel to run on, free from the drive sprocket when motion of the pedals is stopped.

3.1.4 *institutional exercise bicycle, n*—stationary exercise bicycle intended for use by numerous persons in a commercial or institutional, as opposed to a home, environment.

3.1.5 *stationary exercise bicycle, n*—a “bicycle-like” fixed device, on which performance is achieved by means of a pedaling motion applied by the user. Depending on the class, the pedaling motion can be braked, whereby the load is modified.

4. General Requirements

4.1 *Stability:*

4.1.1 The bicycle shall be stable in a statically loaded condition and shall not tip forward, backward or sideward.

4.1.2 The bicycle base of support shall not tilt when force is applied.

4.1.3 The bicycle structure to which the horizontal force is applied shall not break or be permanently deformed.

4.1.4 The tests for stability shall be conducted in accordance with 7.1.

4.2 Exterior Design:

4.2.1 All edges of parts accessible to the user or to bystanders shall be burr-free, rounded, or otherwise guarded.

4.2.2 The design of rotating and moving parts which are accessible to the user shall avoid shear, pinch, or catch points.

4.2.3 Spokes must not be accessible.

4.2.4 Dangerous points of drive train components shall be guarded.

4.2.5 Adjustment devices such as knobs and pins and frame components, and so forth, (for example, handlebars) shall not be within the range of normal leg movements.

4.2.6 The tests for the safety of exterior design shall be conducted in accordance with 7.2.

5. Performance Requirements

5.1 Overheating:

5.1.1 No accessible metallic part shall have a temperature of more than 140°F (60°C). No accessible nonmetallic part shall have a temperature greater than 185°F (85°C).

5.1.2 The test for overheating shall be conducted in accordance with 7.3.

5.2 Frame and Seat Post Retention Assembly—The test for frame and seat post clamp assembly shall be conducted in accordance with 7.4.

5.3 Seat Post and Seat:

5.3.1 The seat shall be adjustable as prescribed by the manufacturer’s specifications.

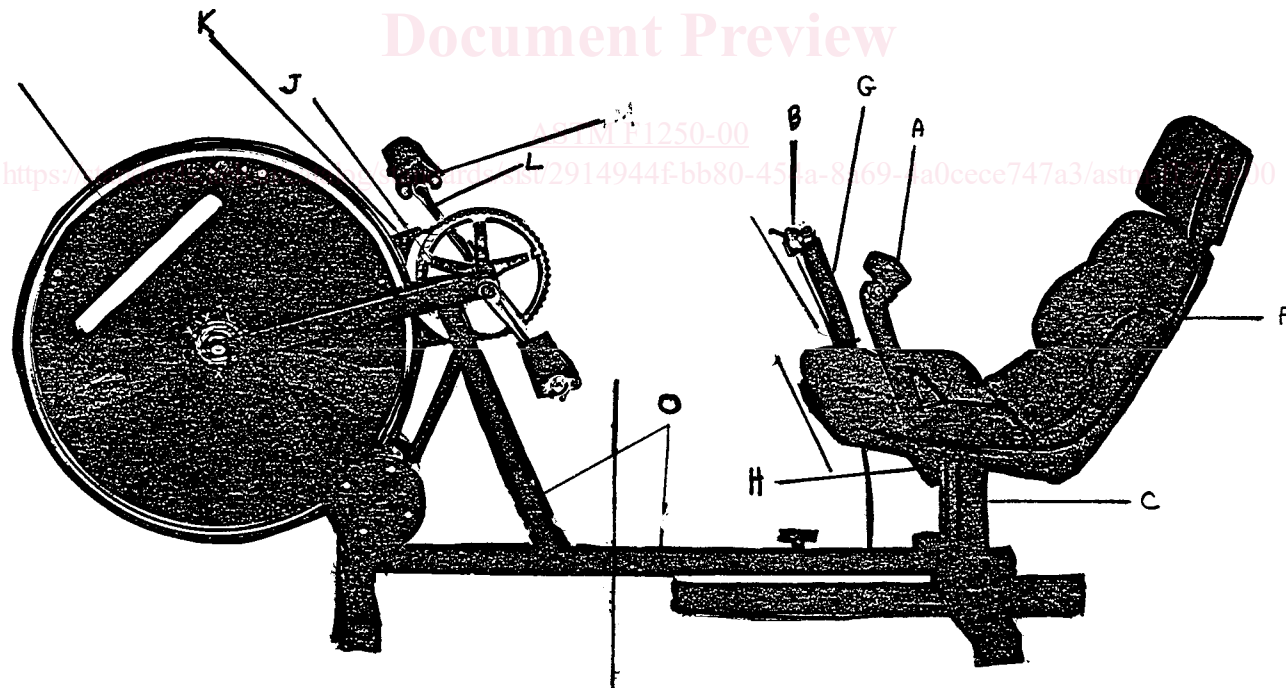
5.3.1.1 The seat post shall have a permanent visual mark indicating a maximum extension. At maximum extension, no less than 2.0 in. (5.1 cm) of the seat post shall be engaged in the support structure. No mark is required if the minimum insertion depth is already provided by the design. The seat shall be mounted onto the post with a steel seat pan, shouldered seat post, capped seat bracket, or any other device that protects the user from impalement in case of failure of the seat or seat post.

5.3.2 When properly adjusted according to the manufacturer’s specifications, the seat shall not tilt.

5.3.3 The test for seats shall be conducted in accordance with 7.5.

5.4 Handlebars:

5.4.1 If a vertical shaft adjustment is used, a visual permanent mark of 2.5 in. (6.35 cm) above the end of the handlebar support shall indicate the minimum insertion depth. No mark is required if the minimum insertion depth is already provided by the design.



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|--------------------------|---------------------------------|-------------------|
| A - Load/Speed Indicator | F - Seat | K - Drive Housing |
| B - Load Adjustment | G - Handlebar | L - Crank Arm |
| C - Seat Post | H - Handlebar Stem | M - Pedals |
| D - Seat Adjustment | I - Handlebar Height Adjustment | N - Flywheel |
| E - Seat Tube | J - Drive | O - Frame |

FIG. 2 Illustration of Bicycle Terms