

KS

KOREAN INDUSTRIAL STANDARD

Handlebars for Bicycles

KS R 8016 : 1998

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Handlebars for Bicycles

1. Scope

This Korean Industrial Standard specifies handlebar assemblies used for bicycles for general use and bicycles for young children specified in **KS R 8002**.

Remark The units and numerical values given in { } in this standard are based on the traditional units.

2. Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. The most recent editions of the standards indicated below shall be applied.

- KS B 0201** Metric Coarse Screw Threads
- KS B 0204** Metric Fine Screw Threads
- KS B 0211** Limits of Sizes and Tolerances for Metric Coarse Screw Threads
- KS B 0214** Limits of Sizes and Tolerances for Metric Fine Screw Threads
- KS D 8302** Electroplated Coatings of Nickel and Chromium
- KS D 8304** Electroplated Coatings Zinc on Iron or Steel
- KS R 0014** General Rules of Coatings Films for Automobile Parts
- KS R 8002** Classification and Essential Characteristics of Cycles
- KS R 8026** Front Forks for Bicycles

3. Constitution and Classification

Handlebar assemblies used for bicycles shall be constituted with handlebars (hereafter referred to as "bar") and handlebar stems (including those combined into integral type, hereafter referred to as "stem"), and classified by usage and formation as given in Table 1.

Table 1. Classification

Classification			Shape of bar (Informative reference)
Use of handlebar assembly		Assembling formation	
Young children use	Used for bicycles for young children	Separate type Integral type Brake lever combined type	Drop type Flat type Upright type High-rise type ⁽¹⁾ Others
General use	Used for bicycles for general use other than MTB-look		
	Used for MTB-look bicycles		Flat type

Note ⁽¹⁾ Length of rising portion is longer than 250 mm.

4. Name of Parts

Names of parts and examples of materials mainly used of handlebar assemblies are shown in Attached Table 1 and Attached Fig. 1.

5. Strength

5.1 One Side Load Resistance

When the handlebar assembly is securely clamped in a fixture to the minimum insertion depth as shown in Fig. 1, and applied a static load at 40 mm from one of the ends of handlebars to produce a torque of $108 \text{ N} \cdot \text{m}$ ($1100 \text{ kgf} \cdot \text{cm}$) for general use, or $30 \text{ N} \cdot \text{m}$ ($310 \text{ kgf} \cdot \text{cm}$) for young children use, there shall be no visible deformation or fractures.

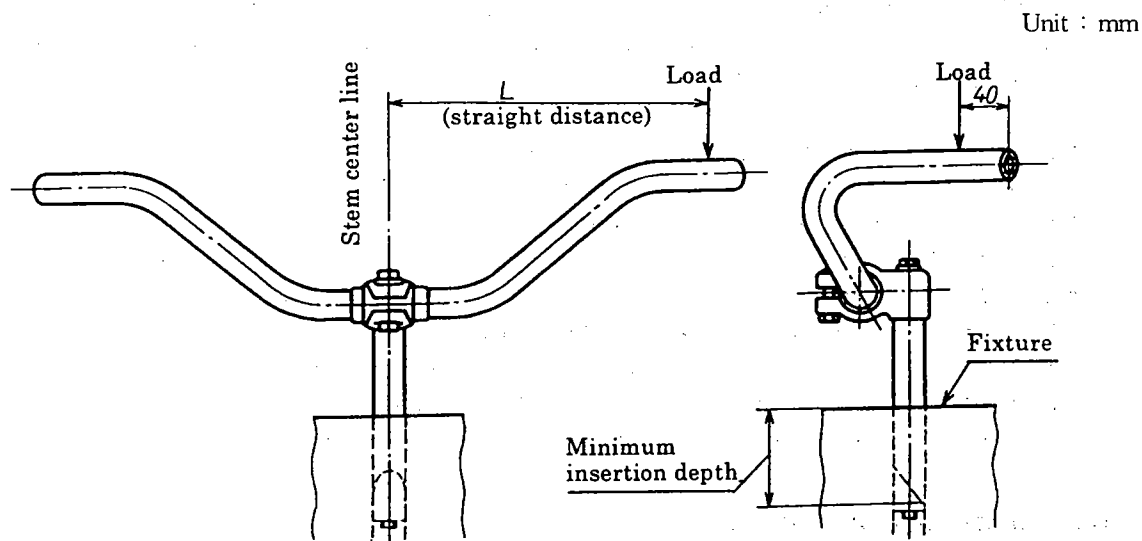


Fig 1. One Side Load Test

5.2 Forward Load Resistance of Stem

When the stem is clamped in fixture to the minimum insertion depth, and applied a static load of 2000 N (200 kgf) for general use, or 500 N (50 kgf) for young children use, through the attachment point of bar or test bar, as shown in Fig. 2, there shall be no breakage of the stem. For the stem of general use that incapable of withstanding the force of 2000 N (200 kgf), it shall be subjected to a bending test, and not be broken before 45 degrees of its bending angle.

Further, the maximum force to be capable of application to the stem shall be not less than 1600 N (160 kgf) in the bending test.

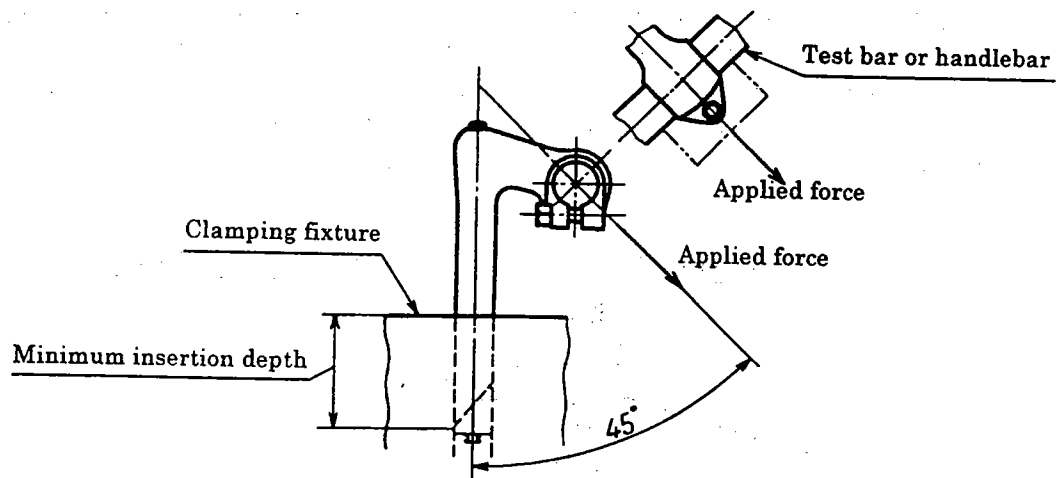


Fig 2. Forward Load Test for Stem

5.3 Fixing Strength of Bar and Stem

With the stem of the handlebar assembly securely clamped in a fixture to the minimum insertion depth, when a force of 220 N (22 kgf) for general use, or 130 N (13 kgf) for young children use, is applied simultaneously to each side of the bar in a direction and at the location that will provide a maximum turning moment at the junction of the bar and stem, as shown in Fig. 3, there shall be no movement of the bar relative to the stem. Where this location occurs at the end of the bar, the force shall be applied as near to the end as practicable and within 15 mm from the end.

Where the bar/stem assembly is secured by means of a clamp, the torque applied to the fastener shall be suitable and shall not exceed 20 N · m (200 kgf · cm)

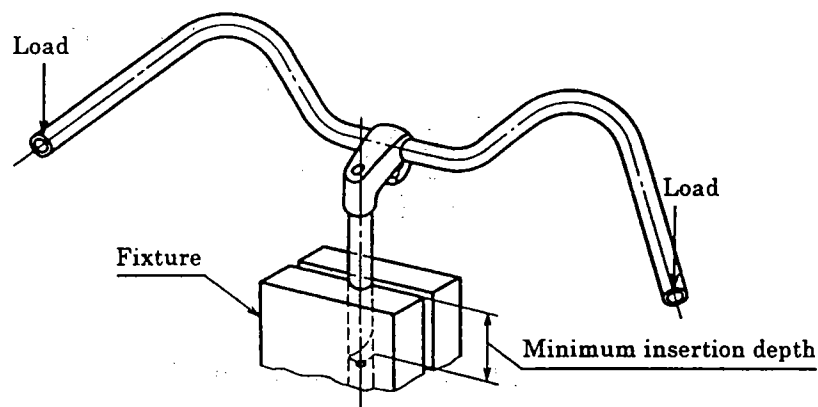


Fig 3. Fixing Strength Test of Bar and Stem

5.4 Fixing Strength of Handlebar Stem to Fork Stem

With the handlebar stem correctly assembled in a fork stem comply with KS R 8026 or a fixture corresponding thereto, and the expander bolt tightened with a suitable of not more than $20 \text{ N} \cdot \text{m}$ ($200 \text{ kgf} \cdot \text{cm}$), when a torque of $25 \text{ N} \cdot \text{m}$ ($250 \text{ kgf} \cdot \text{cm}$) for general use, or $15 \text{ N} \cdot \text{m}$ ($150 \text{ kgf} \cdot \text{cm}$) for young children use is applied on the handlebars or test bar, as shown in Fig. 4, there shall be no movement of the handlebar stem relative to the fork stem or the fixture.

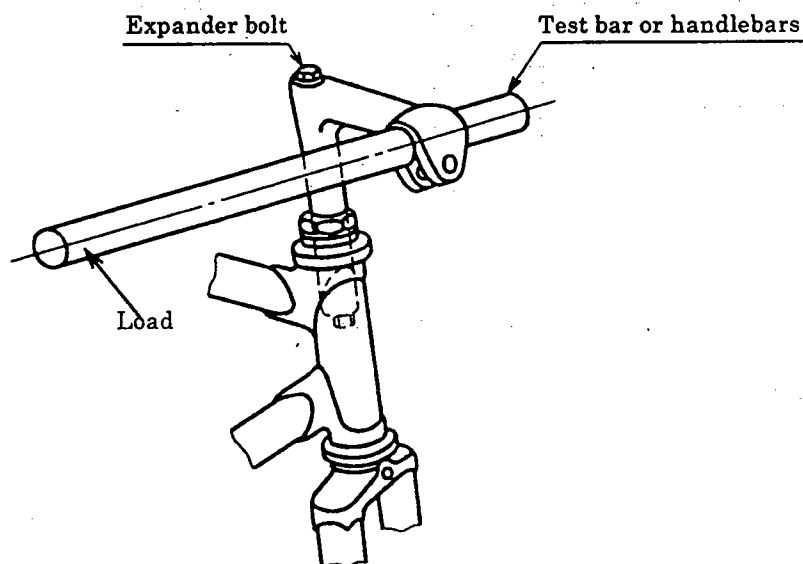


Fig 4. Fixing Strength Test of Handlebar Stem to Fork Stem

5.5 Brake Lever Connection

For the brake lever combined handlebar assembly, when a force of 150 N (15 kgf) is applied at 40 mm from the end of brake lever as shown in Fig. 5, there shall be no relative movement between the lever and brake arm.

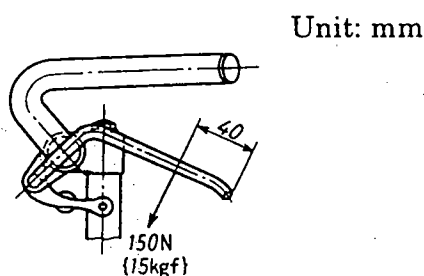


Fig 5. Brake Lever Fixing Test

5.6 Fatigue Strength

When the handlebar assembly is tested by following a) repeating load test or b)