

KS

KOREAN INDUSTRIAL STANDARD

Frame Parts for Bicycles

KS R 8012-1995

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the original standard in Korean is to be evidence.

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Frame Parts for Bicycles

1. Scope

This Korean Industrial Standard specifies the frame parts (head fittings, bottom bracket parts and seat parts) to be assembled to bicycle frames specified in KS R 8011.

Remarks 1. The units and numerical values given in { } in this Standard are based on the traditional units and are the criteria in force.

2. The normative references to this Standard are as follows.

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 B 0224 Bicycle Threads

KS D 8302 Electroplated Coatings of Nicked and Chromium

KS D 8304 Electroplated Coatings of Zinc on Iron or Steel

KS R 8011 Frame-fork Assembly for Bicycles

2. Name of Parts

The names of parts and examples of used materials are shown in Attached Table 1 and Attached Figs. 1 to 3.

3. Strength

3.1 Head Fittings

The upper head cup, lower head cup and crown race, when gently applied a force on the both ends through the diameter to compress 3% of the inner diameter, shall not be broken.

3.2 Bottom Bracket Parts

When a force is applied onto the bottom bracket spindle, as shown in Fig. 1, to break it, the breakage force shall be not less than 20kN {2000kgf}, and the product of the force kN {kgf} and the deflection (mm) at the centre of spindle shall be not less than 30N · m {3000 kgf · mm}.

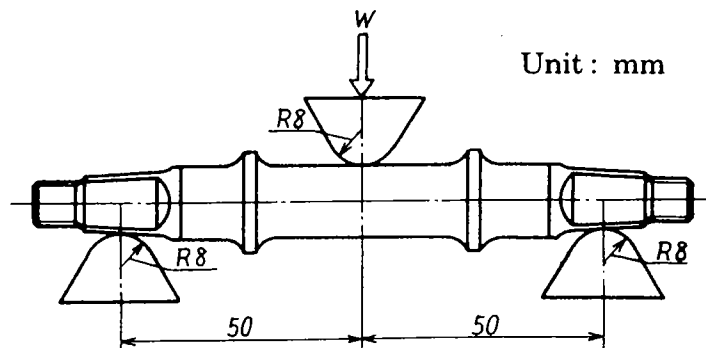


Fig. 1 Strength Test of Bottom Bracket Spindle

4. Hardness

The hardness of the ball race surfaces of the head fittings and bottom bracket parts shall be as given in Table 1.

Table 1 Hardness of Ball Race Surfaces of Head Fittings and Bottom Bracket Parts

Parts	Hardness
Upper and lower head cups, head cone, crown race	HRA 73 min.
Bottom bracket fixed cup and adjusting cup	HRA 77 min.
Bottom bracket spindle	HRC 52 min.

5. Shape and Dimensions

The examples of shape and principal dimensions are shown in Attached Figs. 1 to 3. The dimensions without indication of tolerances are recommended dimensions. The screw threads shall be in accordance with KS B 0201 or KS B 0204, other than those according to KS B 0224, and the permissible limits and tolerances shall generally be 6H · 6g (equivalent to grade 2) and upward specified in KS B 0211 or KS B 0214. Furthermore, the dimensions of each part shall be as follows.

- (1) The runout of the bottom bracket spindle measured at the end of chainwheel side, supporting as shown in Fig. 2, shall not exceed 0.3mm.

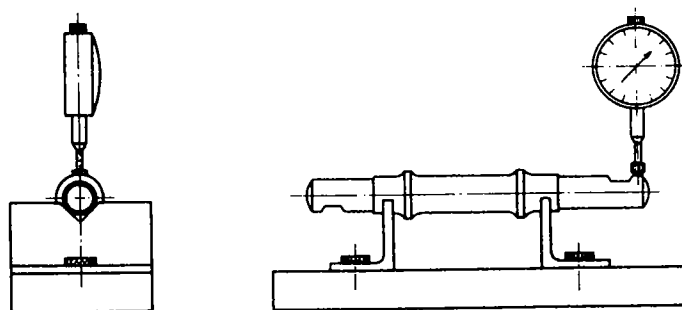


Fig. 2 Runout of Bottom Bracket Spindle

For the cotterless bottom bracket spindle, when it is assembled in a testing bottom bracket, and fitted with a gauge of 55mm in outer diameter on the chainwheel side end, the radial runout measured on the periphery of the gauge and the axial runout measured at 25mm radius on its outside plane, as shown in Fig. 3, shall not exceed 0.3mm, respectively.

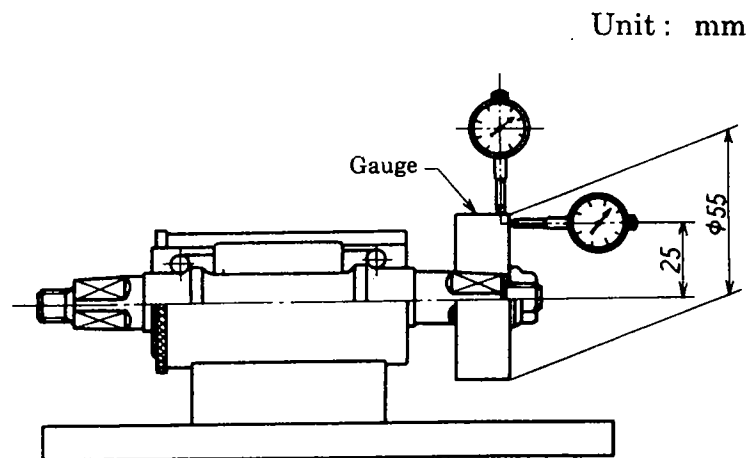


Fig. 3 Runout of Cotterless Bottom Bracket Spindle

- (2) The angular deviation between the right and left cotter pin abutting flats of the cottered bottom bracket spindle and the phase difference between the right and left square tapered faces of the cotterless bottom bracket spindle shall not exceed two degrees, respectively.
- (3) The seat pillar shall contain a permanent mark that indicates the minimum insertion depth of the pillar into the frame.
The minimum insertion mark shall be located not less than two diameter of the pillar from the bottom of the full diameter part of the pillar, and it shall not affect the strength of the pillar.

6. Plating

The thickness and corrosion resistance of the plating shall be grade 2 and upward of KS D 8302, or grade 2 and up-ward of KS D 8304 for electroplated coating of zinc. This need not apply to the corners, threaded portions, and the parts processed after plating. Where provided with chromium plating, the thickness of chromium layer shall be not less than 0.05 μ m.

7. Appearance

The appearance of the frame parts shall be follows :

- (1) There shall be no remarkable flaws, exposure or incomplete polishing of substrate, peelings, rust, or other remarkable defects on the plated or painted surfaces.
Furthermore, the surfaces which are exposed after assembling shall be free from unevenness of plating or painting.
- (2) There shall be no rust, cracks, remarkable flaws, and other remarkable defects on the