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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 1097-2003

Replacing GB/T 1097-1979

Square and rectangular keys

导向型 平键

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Foreword

This standard is a revision of GB/T 1097-1979 Guided parallel keys - Types and dimensions.

The main differences between this standard and GB/T 1097-1979 are as follows: the title of the standard was changed from Guided parallel keys - Types and dimensions to Guided type parallel keys; the limit deviation of the key width b in the table was changed from $h9$ to $h8$; the mass per thousand pieces of the guided parallel key of form B was deleted from the original table and a standard length range was added instead; the designation example was changed to the form GB/T 1097 Key 16 x 100; and the designation examples were extended to cover the guided parallel key of form A and the guided parallel key of form B.

From the date of its implementation this standard replaces GB/T 1097-1979.

This standard was proposed by and is under the jurisdiction of the National Technical Committee on Machine Shafts and Fittings of Standardization Administration of China.

The drafting organizations of this standard are the Machinery Science Research Institute, Shanghai Qiuming Standard Parts Co. Ltd., the Shijiazhuang Chain Wheel General Factory and Beijing Standard Parts Co. Ltd.

1 Scope

The Chinese national standard for the guided type of parallel key - the key that is screwed to the shaft so that the hub can slide along it. An ordinary parallel key simply fills the keyway and transmits torque, but where a gear or a coupling has to move axially while still being driven - a sliding gear in a gearbox, a clutch member, a shifting sleeve - the key has to stay put on the shaft while the hub travels over it. That is done by fastening the key to the shaft with countersunk screws, and by adding a jacking screw hole so that the key can be pushed back out of its seat when the assembly is taken apart. This standard fixes the two forms of such a key, form A with rounded ends and form B with square ends, together with the dimensions and tolerances of the key body, of the screw holes and of the jacking hole,

the standard length ranges available for each key width, the technical conditions, and the designation to be written on a drawing or an order. It covers guided parallel keys of the width range given in the scope. The 2003 edition renamed the standard, tightened the tolerance class of the key width, replaced the mass per thousand pieces of the old table by the standard length range, and revised the designation examples to include both forms. It is used by gearbox and machine tool designers, by the fastener works that make the keys and by anyone specifying a sliding drive connection.

This standard specifies guided type parallel keys of width b from eight millimetres to forty-five millimetres.

2 Normative references

The following documents contain provisions which, through reference in this standard, constitute provisions of this standard. For dated references, subsequent amendments (excluding corrections) to, or revisions of, any of these publications do not apply to this standard; however, parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these documents. For undated references, the latest edition of the document referred to applies.

GB/T 65 Slotted cheese head screws.

GB/T 321 Preferred numbers - Series of preferred numbers.

GB/T 822 Cross recessed cheese head screws.

GB/T 1095 Keys and keyways - Dimensions and tolerances of section.

GB/T 1568 Keys - Technical conditions.

3 Dimensions and tolerances

The forms, dimensions and tolerances of guided parallel keys are given in Figure 1 and Table 1.

Figure 1 shows the two forms side by side. Form A has rounded ends of radius equal to half the key width, two countersunk fastening screw holes near the ends and a threaded jacking hole between them; form B has square ends with a chamfer and the same arrangement of holes. Each form is drawn in plan and in longitudinal section, and a detail shows the fastening screw seated in the key and in the shaft keyway, with the chamfer or radius at the mouth of the hole.

Table 1 is the dimension and tolerance table of the guided parallel key. Across the top it runs through the nominal key widths covered by the standard; for each width it gives the limit deviation of the width to the tolerance class stated in this edition, the nominal key height with its own limit deviation, the chamfer or radius of the edges, the position of the

screw holes from the key end, the fastening screw thread and its clearance hole and counterbore diameters, the jacking screw thread, the depth of the jacking hole and the designation of the fastening screw to be used. Down the left-hand side it runs through the standard key lengths, and against each length it gives the two hole spacings that set out the screw positions; the body of the table marks, for every combination of key width and key length, whether that combination lies inside the standard length range.

4 Technical conditions

4.1 The technical conditions of guided parallel keys shall comply with the provisions of GB/T 1568.

4.2 The dimensions of the keyway shall comply with the provisions of GB/T 1095.

4.3 Where the key length is greater than the largest length listed in Table 1, the length shall be selected from the R20 series of GB/T 321. In order to reduce the problems caused by straightness, the key length should be less than ten times the key width.

4.4 The fastening screws shall comply with the provisions of GB/T 822 or GB/T 65.

5 Designation

Examples of designation are given.

The designation of a guided parallel key of form A of a stated width, height and length is written as: GB/T 1097 Key, followed by the width and the length.

The designation of a guided parallel key of form B of the same width, height and length is written as: GB/T 1097 Key, followed by the letter B, the width and the length.