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

GB 9160.1-1988

Replacing GB/T 9160.1-2006

**Rolling bearings -- Accessories -- Part 1: Adapter sleeve
assemblies and withdrawal sleeves
(English Translation)**

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Foreword

GB/T 9160 "Rolling Bearing Accessories" is divided into two parts.

---Part 1. Adapter sleeve and withdrawal bushing;

--- Part 2. Lock nut and locking device.

This part is the first part of GB/T 9160.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 9160.1-2006 "Rolling bearing accessories Part 1. Tapered bushings", and GB/T 9160.1-2006 in contrast to the editorial changes, the main technical changes are as follows.

---Modified standard name (see cover and front page, cover and front page of 2006 edition);

--- Added some terms and definitions (see 3.2 and 3.3);

---Modify the expression of the code method, and increase the type code of the adapter sleeve and the tightening bushing with a taper of 1.30 and the liquid Structure code for the structure of the pressure hole (see Chapter 5, Chapter 5 of the 2006 edition);

--- Modified the set of 31 series and 23 series part B3 values (see Table 4 and Table 8,

Tables 4 and 5 of the 2006 version);

--- Added partial reference dimensions for the set of bushings 30 and 31 series (see Table 12 and Table 13);

--- Increased the dimensions of the adapter sleeve and the adapter bushing with a taper of 1.30 (see Table 10, Table 11 and Table 19, Table 20);

--- Increased the length of the unloading bushings 30, 31, 32, 39 series and the thread length b and slot width f of the 40, 41 series (See Table 21, Table 22, Table 25, Table 28 to Table 30);

--- Revised the cone tolerance table and added a 1.30 conic tolerance requirement (see Table 32 and Table 33, Table 25 of the 2006 edition);

--- Added provisions for adapter sleeves and withdrawal sleeves with hydraulic oil holes (see Appendix A);

--- Added a schematic diagram of the tolerance measurement of the withdrawal bushing (see Figure C.2).

This section uses the redrafting method with reference to ISO 2982-1:2013 "Rolling bearing accessories - Part 1. Adapter sleeves and withdrawal bushings.

Size is compiled to be non-equivalent to ISO 2982-1:2013.

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Rolling Bearing Standardization Technical Committee (SAC/TC98).

This section drafted by. Luoyang Bearing Research Institute Co., Ltd., Henan Yuxi Bearing Co., Ltd. tight set of branch.

1 Scope

This part of GB/T 9160 specifies the code for the adapter sleeve, the adapter bushing and the withdrawal bushing with a taper of 1.12 and a taper of 1.30.

Methods, dimensions, technical requirements, testing methods, inspection rules, and signs and rust-proof packaging.

This section applies to the production, inspection and acceptance of the adapter sleeves and the withdrawal bushings for rolling bearings in accordance with GB/T 273.3.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 192 ordinary thread basic tooth type GB/T 196 basic thread basic size GB/T 272 rolling bearing code method GB/T 273.3 Rolling bearings - Overall dimensions - Part 3. Radial bearings GB/T 275 rolling bearing fit GB/T 699 high quality carbon structural steel GB/T 1800.1 Geometrical Product Specifications (GPS) Limits and fits Part 1. Basis for tolerances, deviations and fits GB/T 2516 common thread limit deviation GB/T 5796.1 Trapezoidal thread Part 1. Teeth GB/T 5796.3 Trapezoidal thread - Part 3. Basic dimensions GB/T 5796.4 Trapezoidal threads - Part 4. Tolerance GB/T 6930 rolling bearing vocabulary GB/T 7307 55° unsealed pipe thread GB/T 9160.2 Rolling bearing accessories - Part 2. Locking nuts and locking devices GB/T 8597 rolling bearing anti-rust packaging GB/T 24605 rolling bearing product logo GB/T 24608 rolling bearing and its commodity parts inspection rules

3 Terms and definitions

The following terms and definitions as defined in GB/T 6930 apply to this document.

Adapter set adapterassemblies an assembly consisting of a clamping bushing, an adapted lock nut and a lock washer or locking card (for large size).

Locking card lockingclip C-type part with a fixed lock nut.

Locking card assembly lockingclipassembly A component consisting of a locking card and a bolt.

4 Symbol

The following symbols apply to this document.

Unless otherwise stated, the symbols shown in Figures 1 to 5 (excluding tolerance symbols) and the values listed in Tables 3 to 30 are nominal.

size.

4.1 Adapter sleeve symbol (see Figure 1 and Figure 2)

B1. Adapter sleeve width B2. the distance from the small end face of the bearing taper to the outer end of the lock nut B3. distance from the small end face of the bearing taper hole to the outer end face of the locking bolt head d. bearing inner diameter D1. adapter sleeve inner diameter D2. adapter sleeve lock nut outer diameter

Figure 1 Adapter sleeve with lock nut and lock washer Figure 2 Adapter sleeve with lock nut and lock card assembly

4.2 Tightening bushing symbol (see Figures 3 and 4)

a. the distance from the small end diameter of the bushing to the end face of the thread B1. tight bushing width B5. Set the bushing lock groove width B6. Tightening bushing locking groove length D1. Set the diameter of the large end of the bushing cone (calculated value) D1. tight bushing inner diameter f. tight bushing cut width G. thread code KD0. Tightening of the radial runout of the inner surface of the tapered surface of the bushing Vd1mp. the average inner diameter variation of the bushing $\Delta B1s$. length deviation of a $\Delta B1s$. tight bushing width deviation $\Delta D1mp - \Delta d3mp$. Taper deviation of the tapered surface of the bushing $\Delta D1s$. diameter deviation of the tapered end of the bushing $\Delta d1mp$. the average inner diameter deviation of the single plane of the bushing

Figure 3 wide slit adapter bushing

Figure 4 narrow cut tight bushing

4.3 Unloading bushing (see Figure 5)

B1. withdrawal bushing width B4. Combination width of the unloading bushing and the bearing ring b. withdrawal bushing thread length d. bearing inner diameter D1. withdrawal bushing inner diameter D1. diameter of the large end of the withdrawal bushing (calculated value) f. withdrawal bushing slit width G. thread code KD0. radial circular runout of the inner surface of the conical surface of the withdrawal bushing Vd1mp. average inner diameter variation of the withdrawal bushing $\Delta D1mp - \Delta d3mp$. taper deviation of the conical surface of the withdrawal bushing $\Delta D1s$. diameter deviation of the large end of the withdrawal bushing $\Delta d1mp$. single plane average inner diameter deviation of the unloading bushing $\Delta tabs$. withdrawal sleeve thread length deviation $\Delta B1s$. withdrawal sleeve width deviation

Figure 5 withdrawal bushing

5.1 General

The design code of the adapter sleeve, the tightening bushing and the unloading bushing are determined by the type code, the size series code, the inner diameter code of the applicable bearing and the structure code.

Composition, the order is as follows.

Type code size series code applies to the inner diameter code structure code of the bearing

5.2 Type code

Type codes are indicated by letters, as specified in Table 1.

Table 1 type code