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

JB/T 8816-1998

Replacing JB/T 9715-1999

Construction machinery - Drive axles - Technical specifications

工程机械 驱动桥技术条件

(English Translation)

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1 Scope

This Standard specifies the technical requirements, test methods, inspection rules, marking, packaging, transportation, storage and quality guarantee period, etc. of engineering machinery drive axle.

This Standard applies to general drive axle and steering drive axle of wheel type construction machinery (steering knuckle and bearing parts excluded) (hereafter referred to as the drive axle).

2 Normative References

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the modifications or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 1182-1996 Geometrical tolerance-Generalities, definitions, symbols, indications on drawings

GB/T 1184-1996 Geometrical tolerance-Geometrical tolerances for features without individual tolerance indications

GB 2828-87 Sampling procedures and tables for lot-by-lot inspection by attributes (Apply to inspection of successive lots or batches)

GB 2829-87 Sampling procedures and tables for periodic inspection by attributes (Apply to inspection of stability for productive process)

GB/T 3478.1-1995 Straight cylindrical involute splines-Modules, basic rack profiles and tolerances

GB 10095-88 Accuracy of involute cylindrical gears

GB 11365-89 Accuracy of bevel and hypoid gears

GB/T 13306-91 Plates

GB 13319-91 Geometrical tolerance-Positional tolerance

JB/T 5928-91 Drive axle for engineering machinery - Stand testing method and the phosphating film thickness and quality shall comply with the provisions specified in the sample drawing.

4.4.1 Spheroidal graphite casting with strength of extension $\delta \geq 400\text{N/mm}^2$, elongation

$\delta \geq 10\%$ are recommended to be used for final drive housing (hereinafter referred to as carrier) and the left and right differential housing, plant carrier and hub. Technical requirements shall comply with the provisions of JB/T 5938; mechanical properties shall not be less than ZG270-500 cast steel for steel casting, and technical requirements shall comply with the provisions of the JB/T 5939.

4.4.2

Cast steel with mechanical properties no less than ZG270-500 are recommended to be used for axle housing, and technical requirements shall comply with the provisions in JB/T 5939.

4.5.1

Axiality tolerance for planetary wheel axle hole of planetary carrier, cross axle diameter hole of differential housing, two bearing holes of driving gear and two bearing holes of driven gear on the bracket shall not be less than Grade 6. The rest shall not be less than the size tolerance grade.

4.5.2

Vertical position tolerance for two wheel lines (a distance apart for hyperbolic gear) in the bracket shall not be less than Grade 6; maximum allowed deviation for intersection and maximum allowed deviation for offset shall comply with the provisions of

Table 17 of GB 11365-89 (namely, limit deviation for axial spacing).

4.5.3

Perpendicularity tolerance of two common axis of cross axle hole diameter in the differential carrier shall not be less than Grade 7, and those two common axis shall be in the same plane, and its position tolerance is 0.08mm.

4.5.4

The end face run-out tolerance of the end face counter shaft (hole) center-line shall comply with:

For the bearing block shoulder: Not less than Grade 7 for Grade G bearing, Grade 6 for Grade E bearing, and not less than Grade 8 for others.

4.5.5

Perpendicularity tolerance between base level and shaft center-line (hole) shall not be less than Grade 7, and parallelism tolerance between base level and shaft specifications, product certificate).

6.2.1

The sampling inspection is carried out according to the single sampling scheme stipulated in GB 2828. The acceptable quality level (AQL) of Class A substandard drive axle is 6.5, and the acceptable quality level (AQL) of Class B substandard drive axle is 6.5;

the acceptable quality level (AQL) of Class C substandard drive axle is 40; The inspection level is general inspection level II, and the size of sampling words is selected according to the production batch and the regulations of Table 2 of GB 2828-87, or determined by the supply and requisitioning parties after negotiation. Specific inspection item are selected by manufacture according to requirements of Chapter 4 or determined by supplier and purchaser through mutual negotiations.

Notes

1 Class A unqualified items

Mean time between failures (MTBF), Validity (K1), User Evaluation.

2 Class B unqualified items

Cleanliness, service life, acceptability of part manufacturing, temperature of lubricating oil, oil leakage caused by seal failure.

3 Class C unqualified items

Noise, appearance quality, paint quality, permeability (no dripping), looseness of fasteners.

6.2.2

Samples shall not be adjusted, repaired and replaced except maintenance in accordance with the provisions after extracting seal until the end of inspection work.

6.2.3

Superior authority or the ordering party is entitled to select and inspect products, and principles of selective acceptance shall meet the provisions of 6.2.1.

6.2.4 Processing of sample test result

Sampling inspection (including reliability test) index that can not meet the provisions of this Standard, after consolidation within certain period of time, may apply for review and put into production again after acceptance.

Annex B (Suggestive)

The basic parameters of drive axle of qualification

Final reduction gear ratio

Wheel reduction gear ratio

Upper flange mounting dimensions mm

Center distance of soleplate mm

Distance between the two mounting surfaces of the rim wheel disk mm

Minimum diameter of rim mm (Or inches)

Maximum output torque N · m

Maximum input rotate speed r/min

Maximum static load drive axle load kN

Braking torque N · m

Total width of drive axle mm

Total drive axle mass t

Varieties of lubricating oil

Capacity of oiling L