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

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**Belt drives - V-ribbed belts for the automotive industry - Fatigue
test**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" to be drafted.

This document is modified to adopt ISO 11749.2014 "Fatigue test of V-belts for belt drive automotive industry".

Compared with ISO 11749.2014, this document has more structural adjustments, and the structure number changes between the two documents are compared in the list

See Appendix A.

Compared with ISO 11749.2014, there are technical differences between this document and vertical single

Lines (I) are marked. See Appendix B for a list of these technical differences and their causes.

The following editorial changes have been made to this document.

---Changed the indexing number description in Figure 1, Figure 2 and Figure 3 from "driving wheel/driven wheel (power absorbing device)" to "driven wheel (power

Absorbing device)" and "drive wheel", and changed the corresponding index numbers in the figure, and added the explanation about A, B, C in Figure 1;

--- Added the description of the index number in Figure 4 (see 5.2);

--- Changed the parameters and notes of the size part of the test pulley, and deleted the footnotes f and i (see Table 1 of 5.2, the table of ISO 11749.2014

1);

--- Increased the description of "F" and "Ps" in formula (2) (see 7.1.1, 6.1 of ISO 11749.2014);

---Changed the value of the tension force per wedge when using a three-wheel or four-wheel testing machine in the example, and added a two-wheel testing machine description when the test was performed (see 7.1.1, 6.1 of ISO 11749.2014);

---Changed the example in ISO 11749.2014 "the tension force of the belt is 618N, and the tension force of each wedge is 105N" to "the tension force of the belt is 618N, the tension force per wedge is 103N" (see 7.1.1, 6.1 of ISO 11749.2014);

---In ISO 11749.2014, "See Figure 1 for the cross section of the pulley groove of the test pulley" is changed to "See the cross section of the pulley groove for the test pulley see Figure 4" (see 5.2, 4.2 of ISO 11749.2014);

--- Added note (see 7.2.1.1);

--- Changed formula (3) (see 7.2.2, 6.2.2 in ISO 11749.2014).

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document describes the dynamic test method for the quality inspection of V-belts (PK type) used in the transmission of internal combustion engine auxiliary equipment such as automobiles

(fixed center distance method).

This document is applicable to the fatigue performance test of V-ribbed belts used in transmission of internal combustion engine accessories such as automobiles.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

GB/T 230.1 Rockwell hardness test for metallic materials - Part 1. Test method (GB/T

230.1-2018, ISO 6508-1.

2016, MOD)

GB/T 6931.1 Terminology of belt drives Part 1. Basic terms

GB/T 6931.2 Terminology of belt drives Part 2. V-belt and V-belt drives

GB/T 33513 Belt drive automobile V-ribbed belt and pulley PK type. Dimensions (GB/T 33513-2017, ISO 9981.1998,

MOD)

GB/T 34484.1 Heat-treated steel Part 1. Non-alloy steel (GB/T 34484.1-2017, ISO 683-1.2016, MOD)

3 Terms and Definitions

The terms and definitions defined in GB/T 6931.1 and GB/T 6931.2 apply to this document.

4 Test principle

On the two-wheel, three-wheel or four-wheel testing machine described in Chapter 5, measure the dynamic performance of the V-ribbed belt under the conditions specified below.

Poly-V-ribbed belts with a length greater than 1000mm can be tested on a four-wheel testing machine (see Figure 1);

V-belts can be tested on a three-wheel testing machine (see Figure 2); shorter multi-V belts should be tested on a two-wheel testing machine as described in 7.2.1.2 (see Figure 3).

The transmission power in the test, the minimum allowable belt life [in hours (h)], and the number of retensioning times of the belt need to be determined by the belt manufacturer and the user.

The user negotiates to determine.

A belt has failed when it no longer satisfies the specified conditions.

5.1 Fatigue testing machine

5.1.1 The fatigue testing machine has a solid structure, and all its components can withstand the stress generated in the test without damage.

5.1.2 The fatigue testing machine should be composed of the components specified in 5.1.3~5.1.9, and the symmetry planes of the corresponding wedge grooves of each pulley coincide with each other, and the error is not the same.

over 15'.