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

GB/T 29121-2012

**Road vehicles -- Passenger car-trailer combinations -- Lateral
stability test**

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Foreword

This standard was drafted according to GB/T 1.1-2009 given rules.

This standard uses the translation method, identical with ISO 9815.2010 "Road vehicles - passenger train lateral stability test."

Correspondence between the consistency of the standards of international documents and normative references of the following documents.

--- GB/T 3730.1-2001 car and trailer types of terms and definitions (ISO 3833.1999, MOD)

--- GB/T 3730.2-1996 road vehicle mass Vocabulary and codes (ISO 1176.1990, IDT)

--- GB/T 5910-1998 cars weight distribution (ISO 2416.1992, IDT)

This standard by the National Automotive Standardization Technical Committee (SAC/TC114) centralized.

This standard was drafted. China Automotive Technology and Research Center, Anhui Jianghuai Automobile Co., Ltd., Beiqi Foton Motor Company Limited

Division, Hanyang Special Purpose Vehicle Research Institute.

1 Scope

This standard specifies the lateral stability test methods for passenger trains.

This standard applies to passenger cars as defined in ISO 3833, light truck and the trailer train composition.

Lateral stability test can determine the towing vehicle - trailer yaw oscillation damping characteristics determined by a steering pulse train caused.

First, the train stable moving forward, after a single pulse steering lateral oscillation manufacture of the vehicle, the steering wheel remains fixed period of time,

Train swing so gradually eliminated. Tested at several different speeds. If aperiodic

oscillation occurs, it should provide stability

Given test cycle.

2 Normative references

The following documents for the application of this document is essential. For dated references, only applies to the version dated

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

ISO 1176 Road vehicles - Vocabulary and quality procedures
(Roadvehicles-Masses-Vocabularyandcodes)

ISO 2416 passenger weight distribution (Passengercars-Massdistribution)

ISO 3833 Road vehicles - Types - Terms and definitions
(Roadvehicles-Types-Termsanddefinitions)

ISO 4138.2004 Passenger handling characteristics of the steady-state cycle open-loop test procedure (Passengercars-Steady-state

circulardrivingbehaviour-Open-looptestmethods)

ISO 8855 Road vehicles - Vehicle dynamics and road stability term (Roadvehicles-Vehicle dynamicsandroad-holdingability-Vocabulary)

ISO 15037-1.2006 Road vehicles - Vehicle dynamics test methods - Part 1. Overview of passenger cars (Road

vehicles-Vehicledynamicstestmethods-Part 1. Generalconditionsforpassengercars)

3 Definition of Terms and Symbols

ISO 3833, ISO 8855 and defined the following terms and definitions apply to this document.

3.1

Yaw angle hinge yawarticulationangle

δ ψ

XC XT with respect to the corner. X-axis angle between each part, determined by the polarity of the trailer towing vehicle relative rotation angle.

Note. The subscript letters C and T denote the tractor and trailer. For example, the longitudinal axis of the tractor axis system for XC, tractor lateral acceleration a_{YC} ;

The longitudinal axis of the trailer axis system for XT, lateral acceleration of the trailer a_{YT} .

3.2

Average slope meangradient (ofthetesttrack)

Vehicle running track between two vertical height divided by the amount of change in the horizontal distance between two points, two points should be as close to the vehicle, respectively,

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