



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

GB/T 44084-2024

**Weave test and transition test methods for the on-centre
handling of heavy commercial vehicle**

重型商用车转向中心区摇摆试验和过渡试验方法

(English Translation)

Issued on: May 28, 2024

Implemented on: September 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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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" Drafting.

This document is modified to adopt ISO 11012:2009 "Open-loop test method for maneuverability of heavy commercial vehicles and buses in the center of the steering area" Experimentation and transitional testing.

Compared with ISO 11012:2009, this document has many structural adjustments. Comparison table of structural number changes between the two documents See Appendix A.

The technical differences between this document and ISO 11012:2009 and their reasons are as follows.

--- The scope of application has been changed to be consistent with GB/T 15089 (see Chapter 1, Chapter 1 of ISO 11012:2009);

--- Replaced ISO 3833 with the normative reference GB/T 15089 (see Chapter 3);

--- Replaced ISO 8855 with the normative reference GB/T 12549 (see Chapter 3);

--- Replaced ISO 1176 with the normative reference GB/T 3730.2 (see Chapter 3);

--- Replaced ISO 15037-2 with the normative reference GB/T 40499-2021 (see Chapter 5, 7.2);

--- Increased the speed measurement range and maximum error requirements to meet the needs of measuring speed in the test (see Table 1);

--- Changed the steering wheel angle measurement range and maximum error requirements to cover the working range of the steering center area of domestic commercial vehicles (see Table 1, Table 1 of ISO 11012:2009);

--- The test site requirements have been changed to be consistent with GB/T 40499-2021 (see 6.1, Chapter 7 of ISO 11012:2009);

--- Added atmospheric temperature requirements, consistent with GB/T 40499-2021 (see 6.2);

--- Changed the vehicle preheating requirements to be consistent with GB/T 40499-2021 (see 7.1, 8.2 of ISO 11012:2009);

--- Added normative references to GB/T 6323-2014 (see 7.3.2);

--- Added the requirements for the maximum peak value of lateral acceleration and signal acquisition cycle, which are consistent with GB/T 6323-2014 (see 7.3.2);

--- Change the note in 8.4 of ISO 11012:2009 to the main text (see 7.3.2).

The following editorial changes were made to this document.

--- Changed the description of the test record template (see Appendix B, Appendix A of ISO 11012:2009);

--- Added test result expression diagram (see Appendix C) for normative expression of test results.

1 Scope

This document describes the test method for the sway test and transition test in the turning center area of heavy commercial vehicles.

This document is applicable to M3, N2 and N3 vehicles, and other types of vehicles shall refer to it.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 3730.2 Vocabulary and code for road vehicle masses (GB/T 3730.2-1996, idt ISO 1176:1990)

GB/T 6323-2014 Vehicle handling stability test method

GB/T 12549 Terms and definitions for vehicle handling stability

GB/T 15089 Classification of motor vehicles and trailers

GB/T 40499-2021 General conditions for heavy-duty vehicle handling stability tests (ISO 15037-2:2002, MOD)

3 Terms and definitions

The terms and definitions defined in GB/T 3730.2, GB/T 12549 and GB/T 15089 and the following apply to this document.

3.1 On-centrehandling

Objective assessment of the steering feel and steering accuracy of a vehicle when it is traveling in a straight line or passing through a large radius curve at high speed under low lateral acceleration.

3.2 Ordinate dead zone

When the horizontal axis is zero, the width of the hysteresis curve in the vertical axis direction.

3.3 Abscissadeadband

When the ordinate is zero, the width of the hysteresis curve in the abscissa direction.

3.4 Gradient

The rate of change of the variable curve in the ordinate direction corresponding to a unit change in the abscissa direction.

4 Measurement parameters

The following parameters need to be recorded during the test.

a) vehicle speed, v_x ;