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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 12674-2024

Replacing GB/T 12674-1990

Motor vehicles, trailers and combination vehicles mass parameters measurement method

汽车、挂车及汽车列车质量参数测量方法

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents". This document replaces GB/T 12674-1990 "Motor vehicles - Weight parameters - Measuring method". Compared with GB/T 12674-1990, in addition to structural adjustments and editorial changes, the main technical changes are as follows: - MODIFY the scope of application (see Clause 1 of this document, Clause 1 of the 1990 edition); - MODIFY the requirements for measuring instruments (see Clause 4 of this document,

3.1 of the 1990 edition); - ADD the requirements for measuring sites (see

5.1 of this document); - MODIFY the requirements for vehicle preparation (see

5.2 of this document, 3.2, 3.3, 3.4,

3.5 of the 1990 edition); - ADD the general principles of measurement methods (see

6.1 of this document); - MODIFY the measurement methods and calculation of measurement results (see

6.2.1 of this document, Clauses 4 and 5 of the 1990 edition); - ADD the measurements under special conditions (see

6.2.2 of this document); - ADD the measurement method for class O trailers (see

6.3 of this document). Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing authority of this document shall not be held responsible for identifying any or all such patent rights. This document was proposed by Ministry of Industry and Information Technology of the People's Republic of

China. This document shall be under the jurisdiction of National Technical Committee of Auto Standardization (SAC/TC 114). Drafting organizations of this document: China Automotive Technology & Research Center Co., Ltd., CATARC Automotive Research and Inspection Center (Ningbo) Co., Ltd., SAIC-GM-Wuling Automobile Co., Ltd., Xiangyang Da'an Automobile Test Center Co., Ltd., CATARC Automotive Research and Inspection Center (Wuhan) Co., Ltd., Anhui Jianghuai Automobile Group Co., Ltd. Motor vehicles, trailers and combination vehicles mass parameters measurement method

1 Scope

GB/T 12674-2024 is the Chinese national standard on motor vehicles, trailers and combination vehicles mass parameters measurement method, in the field of road vehicles engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 28 May 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 September 2024. Classification: ICS 43.020, CCS T04. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the measuring instruments, measurement requirements, measurement methods and measurement records of mass parameters of motor vehicles, trailers and combination vehicles. This document applies to the measurement of mass parameters of class M, class N motor vehicles and class O trailers and combination vehicles, and other types of vehicles may use this document for reference.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 3730.1 Terms and definitions of motor vehicles, trailers and combination vehicle - Part 1: Types

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in GB/T 3730.1 apply.

4 Measuring instruments

The requirements for measurement parameters are shown in Table 1.

5 Measurement requirements

5.1 Measurement site The measurement site shall be flat, clean, dry and hard, with a lateral and longitudinal slope of no more than 1 %.

5.2 Vehicle preparation Determine the vehicle's load state according to the measurement requirements. When the vehicle needs to be loaded with a simulated load, the load shall be evenly distributed or located at the position specified by the manufacturer; the load shall be firmly fixed and shall not shake or bounce during the test; its mass shall not change due to moisture, loss and other conditions to ensure that the size and distribution of the load mass remain unchanged. Under the test load state, the cold-state inflation pressure of the tires of the test vehicle shall comply with the manufacturer's regulations. The vehicle shall be kept clean, and all vehicle assemblies, components and auxiliary equipment (including on-board tools and spare tires) shall be fully equipped as specified by the manufacturer and installed in the specified position (adjusted to the position required by the manufacturer). For assembly components with adjustable positions (such as lifting axles and adjustable air suspensions), they shall be adjusted to a state suitable for the load and recorded.

6.1 General

6.1.1 Drive the vehicle onto the measuring instrument from both the forward and reverse directions for measurement, once in each direction, and take the average value of the two measurements as the final measurement result. The result shall be rounded to an integer.

6.1.2 For articulated vehicles and vehicles equipped with lifting bridges or other special structures (which have a significant impact on the vehicle load distribution under different conditions), the measurement method in

6.2.1 shall apply only, and the special structural state of the vehicle shall be recorded during measurement.

6.2 Class M and class N motor vehicles and combination vehicles

6.2.1 Conventional measurement Drive the vehicle onto the axle (wheel) load meter's load carrier at a low speed, with the tires in a straight-line driving state. After the vehicle stops, turn off the engine (the electric vehicle is in a power-off state), put the vehicle in neutral, release the brake, and record the axle load or wheel load of the vehicle. When using an axle load meter for measurement, the total mass of the vehicle, m, is calculated according to formula (1); when using a wheel load meter for measurement, turn off the engine (the electric vehicle is in a power-off state), put the vehicle in neutral, release the brake, and measure and record the axle load of the first axle; then continue to move forward so that the first two axles of the vehicle are on the axle load meter's load carrier, measure the sum of the masses of the first two axles, and subtract them to obtain the axle load of the second axle; according to the above method, for each additional axle, record the sum of the

masses displayed by the axle load meter and calculate the axle load of the axle. The measured axle load, mi, is calculated according to formula (3), and the total mass, m, is calculated according to formula (1). where: m'i - the sum of the masses of the vehicle measured from the nth axle to the ith axle, in kilograms (kg); m'i-1 - the sum of the masses of the vehicle measured from the nth axle to the i-1th axle, in kilograms (kg). NOTE: n is determined according to the actual measurement situation. If the first axle is on the load carrier, n is 1; if the first axle is out of the load carrier, n is 2, and so on.