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The portable braking performance tester for vehicles

便携式制动性能测试仪

(English Translation)

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Foreword

This standard is proposed and managed by the Ministry of Public Security Road Traffic Management Standardization Technical Committee.

Introduction

The national standard "Safety Technical Conditions for Motor Vehicle Operation" (GB 7258-1997) requires that the service brake of a motor vehicle can ensure that the motor vehicle is in each Under the conditions of speed, load and up and down slope, the driver can effectively control the vehicle so that it can decelerate and stop safely, quickly and effectively.

Avoid the phenomenon of vehicle deviation or tail turn, and braking performance is an important guarantee for safe driving. Road test to verify the most reliable braking performance Reflects the braking situation of the motor vehicle while driving on the road.

According to the provisions of GB 7258-1997. When the vehicle has doubts about its braking performance after inspection by the bench, the road test can be used in the standard.

The inspection is carried out and the inspection results of the full-load road test shall prevail. In addition, some vehicles that are difficult to test the line for brake inspection (such as double rear Road tests are required for bridge-driven vehicles, full-time four-wheel-drive cars, and on-site inspections of road traffic accident vehicles.

The current road test equipment includes the fifth wheel, the non-contact speed meter and the deceleration meter.

The portable brake performance tester is a high-precision deceleration type instrument with the characteristics of convenient carrying, quick installation and simple operation.

Accurate analysis of vehicle braking performance, suitable for rapid and batch inspection of motor vehicle inspection stations, and suitable for road traffic accidents Field test.

This standard is specially formulated to regulate the production and testing of such instruments.

Portable brake performance tester

1 Scope

This standard specifies the requirements, test methods, inspection rules, marking, packaging and storage of portable braking performance testers.

This standard applies to the production and inspection of portable brake performance tester (hereinafter referred to as the instrument).

2 Normative references

The terms in the following documents become the terms of this standard by reference to this standard. All dated references, followed by all Modifications (not including errata content) or revisions do not apply to this standard, however, parties to agreements based on this standard are encouraged to study if it possible to use the latest version of these files? For undated references, the latest edition applies to this standard.

GB/T 2423.1 Environmental testing of electric and electronic products - Part 2. Test methods Test A. Low temperature (idt IEC 60068-2-1.

1990)

GB/T 2423.2 Environmental testing of electrical and electronic products - Part 2. Test methods Test B. High temperature (idt IEC 60068-2-2.

1974)

GB/T 2423.3 Environmental Test for Electrical and Electronic Products Test Ca. Constant Damp Heat Test Method (eqv IEC 68-2-3. 1984) GB 7258 Motorcycle Operation Safety Technical Conditions GB/T 17626.3-1998 Electromagnetic compatibility test and measurement technology Radio frequency electromagnetic field radiation immunity test (idt IEC 61000-4-3:1995)

3 Terms and definitions

The following terms and definitions apply to this standard.

By recording the time history of the acceleration value output by the acceleration sensor during the braking process of the vehicle, after calculating the speed and distance, Calculate the fully issued average deceleration (MFDD) and brake coordination time in accordance with GB 7258, used to determine the brake of the motor vehicle Performance, instrumentation for on-site printing and data communication. This type of instrument can also perform acceleration performance, instantaneous acceleration values, acceleration

peaks, Tests such as slope value and adhesion coefficient.

Fully issued average deceleration MFDD the fully emitted mean deceleration (MFDD) is calculated according to equation (1).

MFDD =

$B - \frac{1}{2}e$

$25.92 (S_e - S_b)$

(m/s²) (1)

In the formula.

v_0 ---the initial braking speed of the vehicle, in kilometers per hour (km/h);

v_b ---0.8 v_0 The speed of the vehicle, in kilometers per hour (km/h);

v_e ---0.1 v_0 The speed of the vehicle in kilometers per hour (km/h);

S_b ---the distance traveled by the vehicle between speeds v_0 and v_b , in meters (m);

S_e ---the distance the vehicle travels between speeds v_0 and v_e , in meters (m).