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Motorcycles — Guideline for verification of total running resistance force during mode running on a chassis dynamometer

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TECHNICAL REPORT

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Motorcycles — Guideline for verification of total running resistance force during mode running on a chassis dynamometer

Motocycles — Lignes directrices pour la vérification de la force totale de résistance à l'avancement durant les essais sur un banc dynamométrique en mode roulage

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Foreword

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This document was prepared by Technical Committee ISO/TC *22*, *Road vehicles*, Subcommittee SC 38, *Motorcycles and mopeds*.

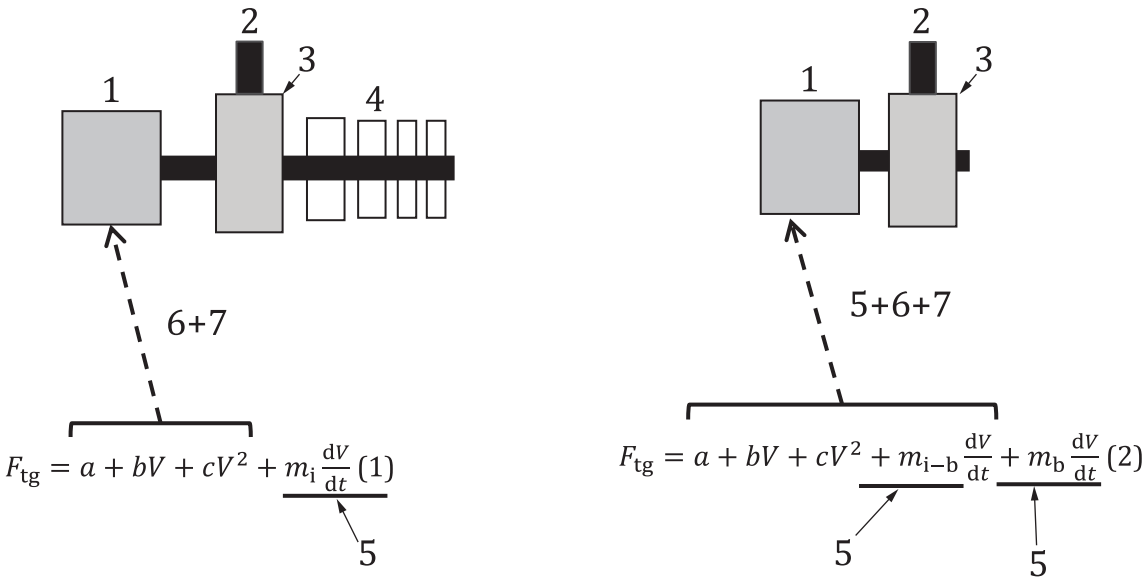
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Introduction

A mechanical inertia chassis dynamometer (Formula (1)) is a device with a mechanical flywheel, whereas a chassis dynamometer (Formula (2)) using the electric inertia function is not equipped with such a mechanical flywheel equivalent to inertia mass system and the inertia force is electrically set in the same way of the running resistance force control (Figure 1). The inertia force is generated by the acceleration and/or deceleration, therefore, it is necessary to check the performance of electric inertia function during the mode running test and ISO 18580 specifies the method to verify the chassis dynamometer operated normally.

However, ISO 18580 does not provide a threshold for the verification result, and it is difficult to determine its validity. Therefore, we investigate the effect of factors affecting fuel consumption on ISO 18580 verification results, and propose a technical report that shows the guideline for determining the threshold of the verification result.



a) mechanical inertia

b) electrical inertia

Key

1 dynamometer
2 tire
3 roller
4 flywheels
5 acceleration resistance
6 rolling resistance
7 aerodynamic drag resistance

NOTE The symbols are defined in Clause 4.

Figure 1 — The principle of mechanical and electrical inertia dynamometer

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TECHNICAL REPORT **ISO/TR 5262:2023**

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1 Scope

This document shows the results of investigating the guideline for determining the threshold of the evaluation result on an electric inertial chassis dynamometer that electrically controls the amount of inertia using fuel consumption.

This document is applicable when the running resistance force of a chassis dynamometer is set in accordance with ISO 18580.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 18580, *Motorcycles — Verification of total running resistance force during mode running on a chassis dynamometer*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 18580 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
dead time
time between the input being given and the output

Note 1 to entry: Dead time is shown in Figure 2, key 3.

3.2
rise time
time required to reach 10 %-90 % of the final output value

Note 1 to entry: Rise time is shown in Figure 2, key 4.

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