
**Passenger cars — Power-off reaction of a
vehicle in a turn — Open-loop test
method**

*Voitures particulières — Réponse d'un véhicule à un lever de pied en
virage — Méthode d'essai en boucle ouverte*



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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9816 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 9, *Vehicle dynamics and road-holding ability*.

This second edition cancels and replaces the first edition (ISO 9816:1993), which has been technically revised.

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Introduction

The dynamic behaviour of a road vehicle is a most important part of the active vehicle safety. Any given vehicle, together with its driver and the prevailing environment, constitutes a unique closed-loop system. The task of evaluating the dynamic behaviour is therefore very difficult, since there is a significant interaction between these driver-vehicle-road elements, each of which is complex in itself. A complete and accurate description of the behaviour of the road vehicle must inevitably involve information obtained from a number of tests of different types.

Since the power-off test procedure quantifies only one small part of the complete handling characteristics, the results of this test can only be considered significant for a correspondingly small part of the overall dynamic behaviour.

Moreover, insufficient knowledge is available concerning the relationship between accident avoidance and the dynamic characteristics evaluated in this test. A substantial amount of effort is necessary to acquire sufficient and reliable data on the correlation between accident avoidance and vehicle dynamic properties in general and the results of this test in particular.

Therefore, it is not possible to use these test methods and test results for regulation purposes *at present*. The best that can be expected is that the power-off test is used as one among other tests, whose results together describe an important part of vehicle dynamic behaviour.

Test conditions and tyres have a strong influence on test results. Therefore, only vehicle dynamic properties obtained under identical test and tyre conditions are comparable to one another.

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Passenger cars — Power-off reaction of a vehicle in a turn — Open-loop test method

1 Scope

This International Standard specifies open-loop test methods to determine the reactions of a vehicle in a turn to a sudden drop in motive power resulting from release of the accelerator pedal. It applies to passenger cars as defined in ISO 3833.

The open-loop manoeuvre specified in this test method is not representative of real driving conditions, but is useful to obtain measures of a vehicle's power-off behaviour resulting from specific types of control inputs under closely controlled test conditions.

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.

ISO 3833, *Road vehicles — Types — Terms and definitions*

ISO 8855, *Road vehicles — Vehicle dynamics and road holding ability — Vocabulary*

ISO 15037-1:2006, *Road vehicles — Vehicle dynamic test methods — Part 1: General conditions for passenger cars*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8855, the general conditions given in ISO 15037-1, and the following terms and definitions shall apply.

3.1

power-off

vehicle operating condition where the vehicle is in gear and the accelerator pedal is fully released, especially when initiated by a sudden release of the accelerator pedal

3.2

instant of power-off initiation, t_0

moment in time when a rapid release of the accelerator pedal is initiated