
**Road vehicles — Durability test
method for starter motor for stop and
start system**

*Véhicules routiers — Méthodes de test d'endurance pour les
démarreur stop and start system*



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Foreword

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Stop and start systems contribute to fuel saving by stopping the engine when its operation is not needed, and to start the engine automatically when its operation is needed. The more frequent starting of the engine requires higher durability of the starter motor. Since there is no standard to evaluate the durability of starter motors for stop and start systems, individual specifications are used by engine and/or vehicle manufacturers and starter motor manufacturers. Because the stop and start systems require much more frequent starter motor operations, the testing period is much longer compared to conventional starter motors.

In addition to engine and/or vehicle manufacturers and starter motor manufacturers, testing companies also began to conduct tests. In order to carry out the time-consuming test accurately and to use the test results effectively, the test procedure in this document includes how to summarize the test results.

Road vehicles — Durability test method for starter motor for stop and start system

1 Scope

This document defines requirements and recommendations for starter motor durability testing of 12 V start systems for internal combustion engines. This includes test methods, test procedures and capabilities of test benches.

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 8856, *Road vehicles — Electrical performance of starter motors — Test methods and general requirements*

3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

stop and start system

system to stop the engine when its operation is not needed, and to start the engine automatically when its operation is needed

3.2

manual start

event when the engine is started manually by the driver

3.3

automatic start

event when the engine is started by the stop and start system automatically

3.4

dummy starter motor

starter motor used for installation purpose only

3.5

calibration starter motor

starter motor used for calibration of test condition, which is equipped for measuring temperatures of its components

3.6

engine simulator

device which simulates engine behaviour during engine start