BS ISO 6518-2:2024

BSI Standards Publication

Road vehicles — Ignition systems

Part 2: Electrical performance and function test methods

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National foreword

This British Standard is the UK implementation of ISO 6518-2:2024.

The UK participation in its preparation was entrusted to Technical Committee AUE/32, Electrical and electronic components and general system aspects (Road vehicles).

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

This third edition cancels and replaces the second edition (ISO 6518-2:1995), which has been technically revised. It also incorporates the Technical Corrigendum ISO 6518-2:1995/Cor. 1:1997.

The main changes compared are as follows:

— test description amended to reflect the state of the art in digital technology.

A list of all parts in the ISO 6518 series can be found on the ISO website.

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.

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Introduction

The purpose of this document is to provide a compact and concise specification on ignition parameter measurements, the test equipment and the corresponding measurement procedures.

It is intended to specify equipment, conditions and methods to evaluate ignition systems for internal combustion engines.

ISO 6518-1 specifies the definitions.

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Road vehicles — Ignition systems —

Part 2:
Electrical performance and function test methods

1 Scope

This document specifies the design and/or evaluation with the specific equipment, conditions and methods for distributorless battery ignition systems intended for use in various internal combustion engines including automotive, marine, motorcycle and utility engine applications. The test procedures listed in this document are limited to measurements performed on a test bench only and do not include measurements made directly on engines or vehicles. This document is not intended to supply information for battery ignition systems used in aircraft applications of any type.

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 6518-1, *Road vehicles — Ignition systems — Part 1: Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6518-1 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

— IEC Electropedia: available at https://www.electropedia.org/

4 Ignition system description

This document applies to single ended coil on plug (COP) and coil near plug (CNP). This document does not propose methods to measure any advanced ignition technologies. Those advanced technologies may require advanced methodologies for collection of performance characteristics.

The ignition system as defined for the tests tabulated in this document shall consist of:

a) A coil. This can be the conventional induction coil or an air or magnetic core transformer.

b) High voltage, metal conductor ignition cables which are specified to eliminate the varying effects of the different kinds of cable with high impedance conductors. Resistance per foot, as well as inductance of spark plug cables built to suppress radiation, can be quite different from manufacturer to manufacturer.

NOTE It is possible that some ignition systems do not function properly with metallic secondary cables due to EMI and can require low resistance inductance cables.

c) The standard switching device used in modern systems is the insulated gate bipolar transistor (IGBT). Other transistorized switches can be utilized too.

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