INTERNATIONAL STANDARD

ISO 6518-2

Second edition
1995-04-01

Road vehicles — Ignition systems —

Part 2:
Electrical performance and function test methods

Véhicules routiers — Systèmes d'allumage —

Partie 2: Performances électriques et méthodes d'essai de fonctionnement

Reference number
ISO 6518-2:1995(E)

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.

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.

International Standard ISO 6518-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 1, *Ignition equipment*.

This second edition cancels and replaces the first edition (ISO 6518-2:1982), which has been changed as follows:

— introduction of test methods A (spark gaps) and B (Zener diode string);

— detailed revision of the clauses on test equipment, measured parameters and test procedures.

ISO 6518 consists of the following parts, under the general title *Road vehicles — Ignition systems*:

— *Part 1: Vocabulary*

— *Part 2: Electrical performance and function test methods*

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland
Printed in Switzerland

Road vehicles — Ignition systems —

Part 2:
Electrical performance and function test methods

1 Scope

This part of ISO 6518 specifies the methods and test conditions for testing battery-supplied ignition systems for spark-ignited internal combustion engines.

Because of the difficulties in producing repeatable measurements with atmospheric spark gaps and different observers, two methods of obtaining the results necessary for calculating the system output energy are given.

Method A — using spark gaps for the energy measurement (test arrangement A).

The output energy obtained by this method is called spark energy, E_{sp}.

Method B — using a Zener diode string for the energy measurement (test arrangement B).

The output energy obtained by this method is called Zener discharge energy, E_{zd}.

This method is not suitable for systems giving alternating spark current.

Method B is also recommended for the comparative testing of ignition coils and current interruption systems.

2 Ignition system description

For the tests described in the following subclauses, the ignition system components used shall be as specified for the application being examined, i.e. to the original equipment specification.

2.1 Ignition system with mechanical distributor

The following components shall be interconnected as shown in figure 1 or in any other circuit which has been proved to be equivalent.

2.1.1 Single-ended coil which can be the conventional induction coil or an air or magnetic core transformer.

2.1.2 Coil ballast resistor or resistors, if the coil being tested requires a ballast resistor, or any fixed or variable means to make the voltage and/or the current in the ignition circuit vary.

2.1.3 Distributor which distributes the ignition impulses to the spark-plugs. It may also contain means of triggering and/or timing adjustment, all of which have a proper angular interrelationship to themselves and to the engine.

2.1.4 Auxiliary switching device implicit with the system being tested such as a transistorized control unit.

2.2 Static (distributorless) ignition system with single-ended coils

The following components shall be interconnected as shown in figure 2 or in any other circuit which has been proved to be equivalent.