
**Reciprocating internal combustion
engines — Performance —**

**Part 5:
Torsional vibrations**

Moteurs alternatifs à combustion interne — Performances —

Partie 5: Vibrations de torsion



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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 3.

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 part of ISO 3046 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3046-5 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This second edition cancels and replaces the first edition (ISO 3046-5:1978), which has been technically revised.

ISO 3046 consists of the following parts, under the general title *Reciprocating internal combustion engines — Performance*:

- *Part 1: Declarations of power, fuel and lubricating oil consumptions and test methods — Additional requirements*
- *Part 2: Test methods*
- *Part 3: Test measurements*
- *Part 4: Speed governing*
- *Part 5: Torsional vibrations*
- *Part 6: Overspeed protection*
- *Part 7: Codes for engine power*

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Reciprocating internal combustion engines — Performance —

Part 5:

Torsional vibrations

1 Scope

This part of ISO 3046 establishes general requirements and definitions for torsional vibrations in shaft systems of sets driven by reciprocating internal combustion (RIC) engines.

Where necessary, individual requirements can be given for particular engine applications.

This part of ISO 3046 covers sets driven by reciprocating internal combustion engines for land, rail-traction and marine use, excluding sets used to propel road construction and earthmoving machines, agricultural tractors, industrial types of tractors, automobiles and trucks, and aircraft.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 3046. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 3046 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 2041:1990, *Vibration and shock — Vocabulary*

ISO 2710-1, *Reciprocating internal combustion engines — Vocabulary — Part 1: Terms for engine design and operation*

ISO 2710-2, *Reciprocating internal combustion engines — Vocabulary — Part 2: Terms for engine maintenance*

3 Terms and definitions

For the purposes of this part of ISO 3046 the terms and definitions in ISO 2710-1 and ISO 2710-2 as well as the following apply.

3.1

set

assembly of mechanisms including one or more RIC engines and the driven machinery

3.2

shaft system

assembly of all the components of a set connected so that they can rotate (see Figure 1)

NOTE When the torsional vibrations are calculated, it is the complete shaft system that is considered.