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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Reciprocating internal combustion engines — Performance —

Part 7: Codes for engine power

Moteurs alternatifs à combustion interne — Performances —

Partie 7: Codes des puissances de moteur

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3046-7 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Reciprocating internal combustion engines — Performance —

Part 7: Codes for engine power

0 Introduction

ISO 3046 covers the performance of reciprocating internal combustion engines. The series comprises:

Part 1: Standard reference conditions and declarations of power, fuel consumption and lubricating oil consumption.

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.

1 Scope

This part of ISO 3046 defines codes for engine net brake power according to ISO 3046-1, in order, where necessary, to simplify the application of the power statements specified in ISO 3046-1 and to facilitate communication. This applies for example to power statements used on engine data plates.

2 Field of application

This part of ISO 3046 covers reciprocating internal combustion engines for land, rail-traction and marine use, excluding engines used to propel agricultural tractors, road vehicles and aircraft.

This part of ISO 3046 may be applied to engines used to propel road construction and earth-moving machines, industrial trucks and for other applications where no suitable International Standard for these engines exists.

NOTE — In addition to terms used in the three official ISO languages (English, French, Russian), this International Standard gives, in the table in clause 6, the equivalent terms in German; these have been included at the request of Technical Committee ISO/TC 70 and are published under the responsibility of the member body for Germany, F.R. (DIN). However, only the terms given in the official languages can be considered as ISO terms.

3 Reference

ISO 3046-1, *Reciprocating internal combustion engines — Performance — Part 1: Standard reference conditions and declarations of power, fuel consumption and lubricating oil consumption.*

4 Relation of codes to powers according to ISO 3046-1

According to ISO 3046-1, a statement of power shall contain:

- a) the kind of statement of power;
- b) the kind of power output;
- c) the kind of power;
- d) the corresponding engine speed.

In consequence, the statement of power by means of codes in accordance with this part of ISO 3046 requires the combination of letters from three different groups of letters supplemented by a statement of the engine speed.

The sequence of the letters making up the coding is shown diagrammatically in the figure.

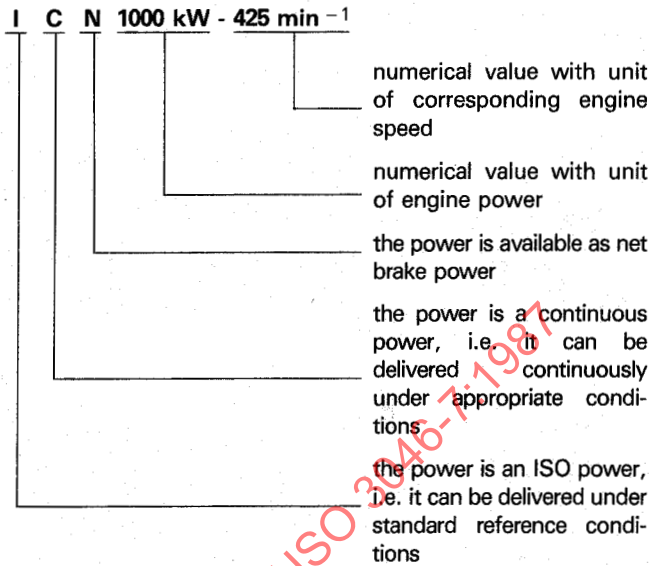
In addition, the letter C may be followed by an indication of the numerical percentage value by which a continuous power may be exceeded (see the table, serial No. 3). Where the continuous power can be exceeded by the standard amount of 10 %, the numerical indication is replaced by the letter X (see the table, serial No. 4).

5 Designation of power by means of codes

An engine power statement by use of codes comprises the following:

- the letters indicated in the figure;
- the numerical value with the unit of power;
- the numerical value with the unit of the corresponding engine speed.

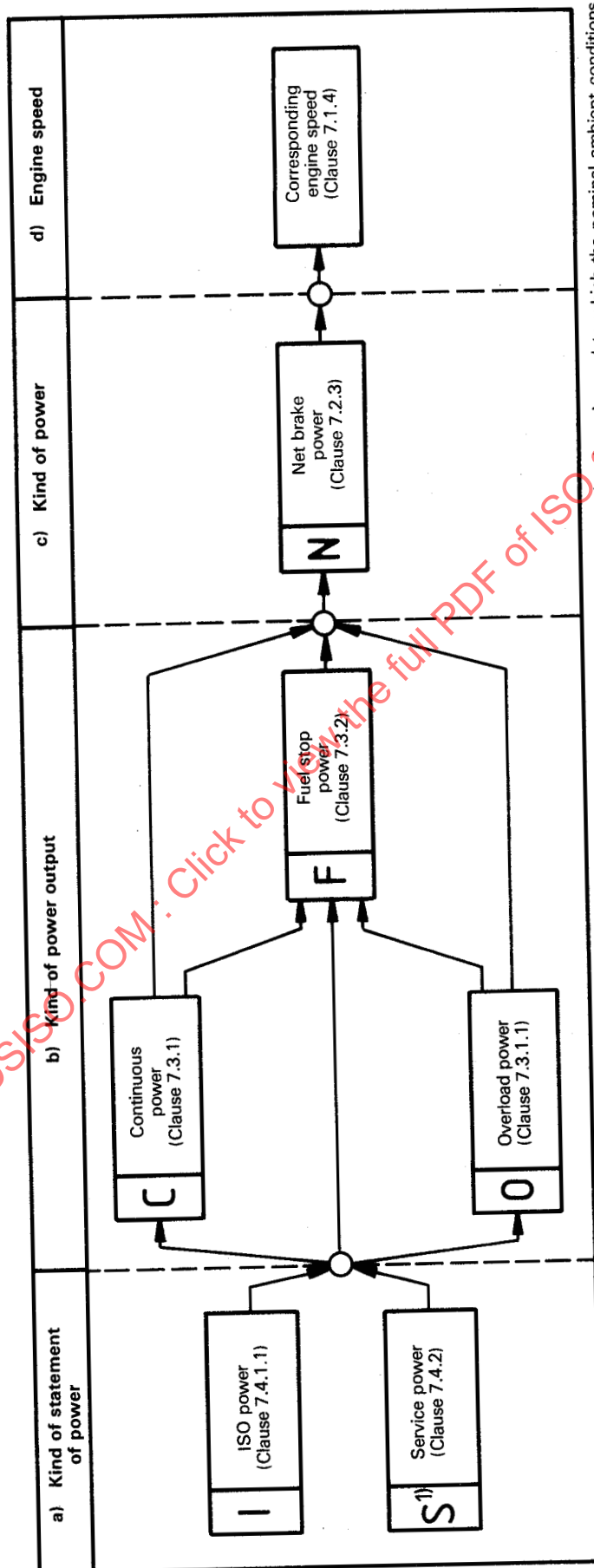
Example:



This statement does not define whether the power may be exceeded.

However, if the power can be exceeded, the indication of the numerical percentage value shall be given, for example as ICXN.

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1) In the case of engines which are used on board ships for International Association of Classification Societies (IACS) unrestricted service and to which the nominal ambient conditions specified in ISO 3046-1, clause 7.4.2 a) apply, the code M may be used instead of S to designate the service power. When the code M is used, it is not necessary to give any additional information on the particular ambient and operating conditions at the site.

Figure — Diagram showing the sequence of letters to be used in codified power statements
(The clause numbers in brackets refer to ISO 3046-1.)

6 Examples of power designations by use of codes

The table contains examples of codes used for common power designations.

Table

No.	Power designation ¹⁾	ISO 3046-1 Clause No.	Code ^{2), 3)}
1	E: ISO standard power F: Puissance normale ISO R: Стандартная мощность ИСО D: ISO-Standard-Leistung	7.4.1.2	ICN
2	E: ISO standard fuel stop power F: Puissance en butée normale ISO R: Стандартная мощность ИСО на упоре рейки D: Blockierte ISO-Standard-Leistung	7.3.2 7.4.1.2	ICFN
3	E: ISO standard power exceedable by ... % F: Puissance normale ISO pouvant être dépassée de ... % R: Стандартная мощность ИСО с перегрузкой на ... % D: ISO-Standard-Leistung überschreitbar um ... %	7.4.1.2	IC.4).N
4	E: ISO standard power exceedable by 10 % F: Puissance normale ISO pouvant être dépassée de 10 % R: Стандартная мощность ИСО с перегрузкой на 10 % D: ISO-Standard-Leistung überschreitbar um 10 %	7.4.1.2	ICXN
5	E: ISO overload net brake power F: Puissance de surcharge nette au frein ISO R: Полезная тормозная мощность перегрузки ИСО D: ISO-Überleistung als Nutzleistung	7.2.3 7.3.1.1 7.4.1.1	ION
6	E: ISO overload net brake fuel stop power F: Puissance de surcharge nette au frein en butée ISO R: Полезная тормозная мощность перегрузки ИСО на упоре рейки D: Blockierte ISO-Überleistung als Nutzleistung	7.2.3 7.3.1.1 7.3.2 7.4.1.1	IOFN
7	E: ISO net brake fuel stop power F: Puissance nette au frein en butée ISO R: Полезная тормозная мощность ИСО на упоре рейки D: Blockierte ISO-Nutzleistung	7.2.3 7.3.2 7.4.1.1	IFN

1) E = English; F = French; R = Russian; D = German.

2) The prominence given to the code letters in the "Code" column of this table and in the figure is not necessarily required in practical use.

3) Similarly, the codes indicated in the table may also be applied to service power, in which case letter I shall be replaced by S or M (see footnote to the figure).

Example:

Continuous net brake fuel stop service power will be coded:

SCFN

4) Appropriate figure shall be stated.