INTERNATIONAL STANDARD

# ISO 3046-7

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# Reciprocating internal combustion engines — Performance —

## Part 7: Codes for engine power



*Moteurs alternatifs à combustion interne — Performances —*
*Partie 7: Codes de puissance des moteurs*



Reference number
ISO 3046-7:1995(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 3046-7 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*, Subcommittee SC 2, *Performance and tests*.



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



- *Part 1: Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and 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 7: Codes for engine power

## 1 Scope

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

This part of ISO 3046 covers reciprocating internal combustion (RIC) 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 part of ISO 3046 gives, in table 1, 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 (DIN). However, only the terms given in the official languages can be considered as ISO terms.

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 3046. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 3046 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3046-1:1995, *Reciprocating internal combustion engines — Performance — Part 1: Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and test methods.*



## 3 Definitions

For the purposes of this part of ISO 3046, the definitions given in ISO 3046-1 apply.

## 4 Relation of codes to powers in accordance with ISO 3046-1

In accordance with ISO 3046-1, a statement of power shall contain:

a) the type of statement of power;

b) the type of power application;

c) the type of power;

d) the declared 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 figure 1.

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 table 1, 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 table 1, No. 4).

## 5 Designation of power by means of codes

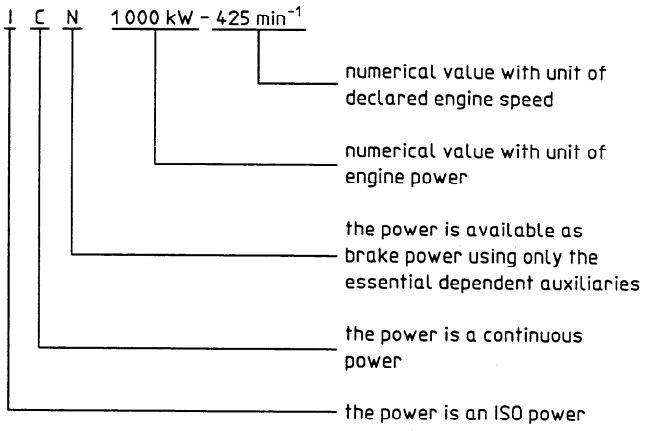
An engine power statement by use of codes comprises the following:

— the letters indicated in figure 1;

— the numerical value with the unit of power;

— the numerical value with the unit of the declared 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.



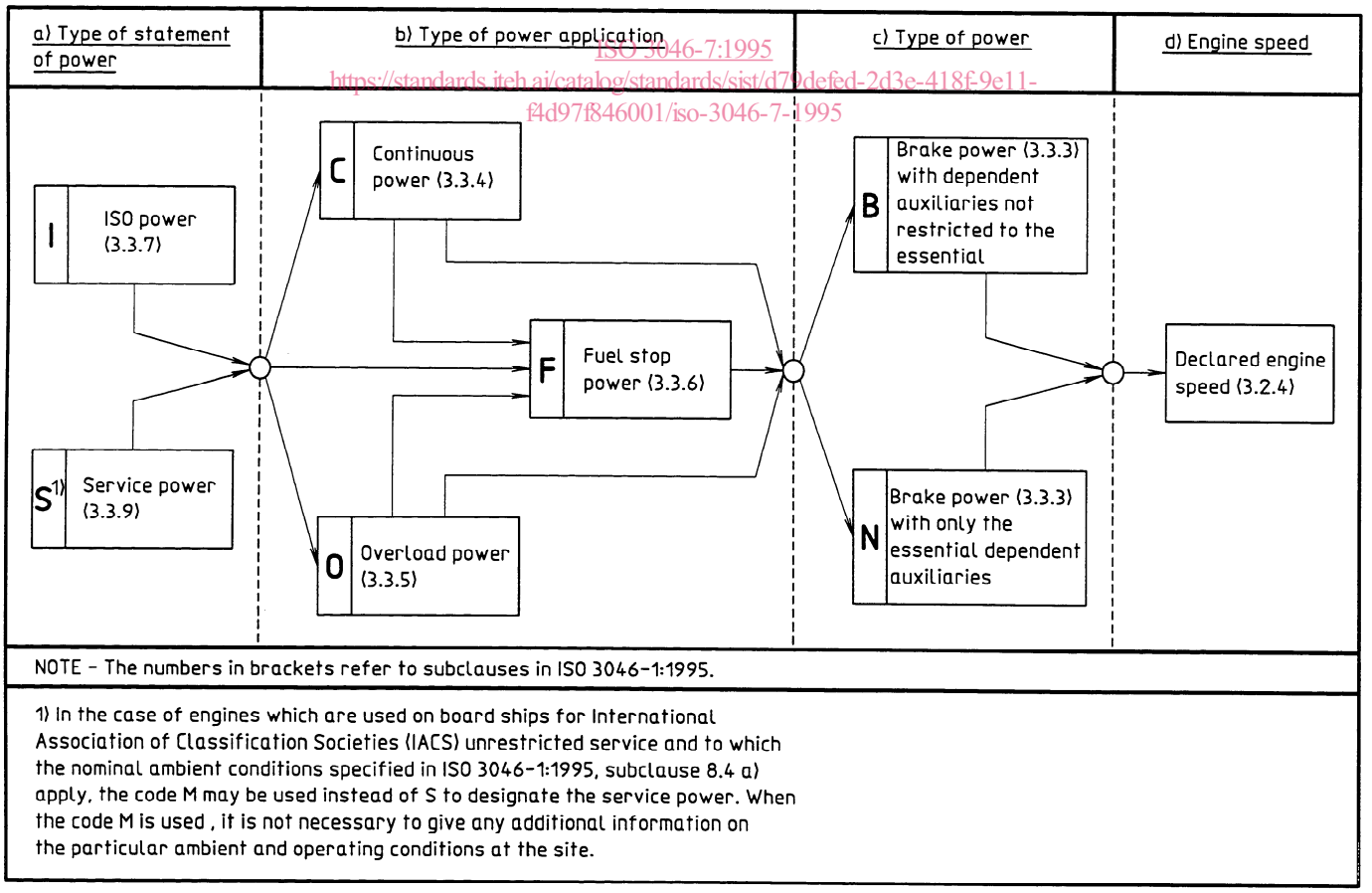





**Figure 1 — Diagram showing the sequence of letters to be used in codified power statements**

## 6 Examples of power designations by use of codes

Table 1 contains examples of codes used for common power designations.

**Table 1**

| No. | Power designation[1] | ISO 3046-1:1995 Subclause No. | Code[2] |
|---|---|---|---|
| 1 | en ISO standard power<br>fr Puissance normale ISO<br>ru Стандартная мощность ИСО<br>de ISO-Standard-Leistung | 3.3.8 | **ICN** |
| 2 | en ISO standard fuel stop power<br>fr Puissance en butée normale ISO<br>ru Стандартная мощность ИСО на упоре рейки<br>de Blockierte ISO-Standard-Leistung | 3.3.6<br>3.3.8 | **ICFN** |
| 3 | en ISO standard power exceedable by $x$ %<br>fr Puissance normale ISO pouvant être dépassée de $x$ %<br>ru Стандартная мощность ИСО с перегрузкой на $x$ %<br>de ISO-Standard-Leistung überschreitbar um $x$ % | 3.3.8<br>8.3 | **IC$x$N**[3] |
| 4 | en ISO standard power exceedable by 10 %<br>fr Puissance normale ISO pouvant être dépassée de 10 %<br>ru Стандартная мощность ИСО с перегрузкой на 10 %<br>de ISO-Standard-Leistung überschreitbar um 10 % | 3.3.8<br>8.3 | **ICXN** |
| 5 | en ISO overload brake power using only the essential dependent auxiliaries<br>fr Puissance de surcharge au frein ISO en utilisant seulement les auxiliaires dépendants essentiels<br>ru Тормозная мощность ИСО с перегрузкой с существенным зависимым вспомогательным оборудованием<br>de ISO-Überleistung als Nutzleistung | 3.3.3<br>3.3.5<br>3.3.7 | **ION** |
| 6 | en ISO overload brake fuel stop power using only the essential dependent auxiliaries<br>fr Puissance de surcharge au frein en butée ISO en utilisant seulement les auxiliaires dépendants essentiels<br>ru Тормозная мощность ИСО с перегрузкой на упоре рейки с существенным зависимым вспомогательным оборудованием<br>de Blockierte ISO-Überleistung als Nutzleistung | 3.3.3<br>3.3.5<br>3.3.6<br>3.3.7 | **IOFN** |
| 7 | en ISO brake fuel stop power using only the essential dependent auxiliaries<br>fr Puissance au frein en butée ISO en utilisant seulement les auxiliaires dépendants essentiels<br>ru Тормозная мощность ИСО на упоре рейки с существенным зависимым вспомогательным оборудованием<br>de Blockierte ISO-Nutzleistung | 3.3.3<br>3.3.6<br>3.3.7 | **IFN** |

EXAMPLES

a) Service standard power exceedable by 10 % will be coded:

SCXN

b) Service standard fuel stop power will be coded:

SCFN

c) ISO overload brake power using auxiliaries not restricted to the essential and listed will be coded:

IOB

1) en: English; fr: French; ru: Russian; de: German.

2) The prominence given to the code letters in the "Code" column of this table and in figure 1 is not necessarily required in practical use.

The codes indicated may also be applied to service power, in which case the letter I shall be replaced by S or M (see footnote to figure 1). They may also be used to designate brake power with auxiliaries not restricted to the essential auxiliaries and listed, in which case the letter N shall be replaced by B. See the above examples.

3) The appropriate numerical value of $x$ shall be indicated.

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**Descriptors:** internal combustion engines, reciprocating engines, performance, power, mechanical power, designation, codes.

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