INTERNATIONAL STANDARD 1205

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION·МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ·ORGANISATION INTERNATIONALE DE NORMALISATION

Reciprocating internal combustion engines — Designation of the cylinders

First edition — 1972-04-15

Replaced by
ISO 1204:1990

UDC 621.434

Ref. No. ISO 1205-1972 (E)

Descriptors : internal combustion engines, reciprocating engines, engine cylinders, identifying, coding, numbering.

Price based on 4 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 1205 (originally second Draft No. 933) was drawn up by Technical Committee ISO/TC 70, *Internal combustion engines.*

It was approved in June 1971 by the Member Bodies of the following countries :

Australia	India	Romania
Austria	Ireland	South Africa, Rep. of
Belgium	Italy	Thailand
Bulgaria	Korea, Dem. P. Rep. of	Turkey
Czechoslovakia	Korea, Rep. of	United Kingdom
Egypt, Arab Rep. of	Netherlands	U.S.A.
France	New Zealand	U.S.S.R.
Germany	Portugal	

The Member Bodies of the following countries expressed disapproval of the document :

Denmark	Sweden
Japon	Switzerland
Norway	

Printed in Switzerland

Reciprocating internal combustion engines — Designation of the cylinders

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of designating the cylinders of reciprocating internal combustion engines.

It does not apply to engines used to propel

- aircraft;
- automobiles and trucks;
- agricultural and industrial types of tractors;
- road construction and earth moving machines;
- motor cycles.

2 DEFINITIONS

For the purpose of this International Standard the following definitions apply:

2.1 clockwise: The direction of rotation normal for the hands of a clock (see Figure 1).

2.2 counter-clockwise: The direction of rotation opposite to clockwise (see Figure 1).

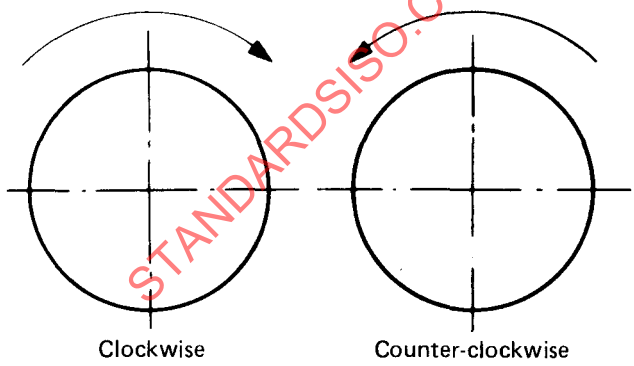


FIGURE 1 — **Direction of rotation**

3 POSITION OF THE OBSERVER

3.1 The position of the observer in relation to an engine is considered to be in an extension of the axis of the shaft which provides the driving extremity, the observer directing his view towards this shaft extremity along the arrow V (see Figure 2).

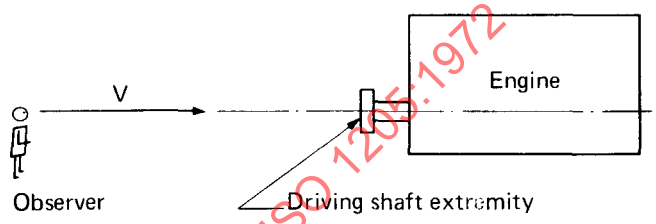


FIGURE 2 — **Position of the observer**

This position applies equally to an engine with an integral (built in) reversing gear, with or without speed variation, with an integral (built in) gear, with or without speed variation, only or with more than one bank of cylinders.

3.2 The position of the observer relative to an engine having more than one bank of cylinders shall, in accordance with 3.1, be determined relative to the main shaft through which (in the interior of the engine) the total power of all cylinders is transmitted.

3.3 If the engine has more than one driving shaft extremity, the manufacturer shall state which shaft extremity is referred to when designating the cylinders.

4 DESIGNATION OF THE CYLINDERS

It is assumed that in all the mechanisms described below, the cylinders are identical in design. The designation of each individual cylinder of a reciprocating engine shall be effected by using a number (numbering consecutively 1, 2, 3, etc.) or by using a combination of a capital letter (lettering consecutively A, B, C, etc.) and a number.

4.1 Single-bank engines

The designation of each individual cylinder of a single-bank (in line) engine shall be effected by using numbers only, starting by giving the number 1 (one) to the cylinder nearest the observer (see section 3), proceeding by giving number 2 to the next cylinder, and so on (see Figures 3, 4 and 5).

The cylinder of a single cylinder engine shall be designated by the number 1 (one).

4.2 Multi-bank engines

The designation of the individual cylinders of a multi-bank engine shall be effected by using symbols consisting of combinations of a capital letter and a number, for example A1, B6, D6.

The letters shall be allocated by taking an imaginary semi-plane P centred upon the axis of the driving crankshaft. This semi-plane is imagined to be rotating in a clockwise direction. Any such crankshaft is assumed to be in a horizontal position.

The starting position of this semi-plane shall be horizontal and at the left side (i.e. in the 9 o'clock position) of the observer (see section 3).

The first bank through which this clockwise-rotating semi-plane moves, including a bank at the starting position, shall be given the capital letter A, the following bank shall have the capital letter B, etc. (see Figures 7 to 14).

The designation of each individual cylinder shall be effected by using symbols consisting of a capital letter, determined as described above, followed by a number, determined as described in 4.1 for single-bank engines.

The designation of a single-row engine shall be effected by using symbols A1, B1, C1, etc. (see Figure 10).

4.2.1 For multi-bank multi-crankshaft engines the axis of rotation of the semi-plane shall be the central line between all the crankshafts, i.e. the line that coincides with the line of the arrow V (see Figures 11 to 14).

4.2.2 In the case of an engine having a vertical crankshaft, it is not possible to determine the 9 o'clock position of the rotating semi-plane. The clockwise lettering of the banks of this type of engine shall commence from the position of any readily identifiable component decided upon by the manufacturer; for example, the fuel control. The cylinder numbers shall be determined as described in 4.1 for single-bank engines (see Figure 15).

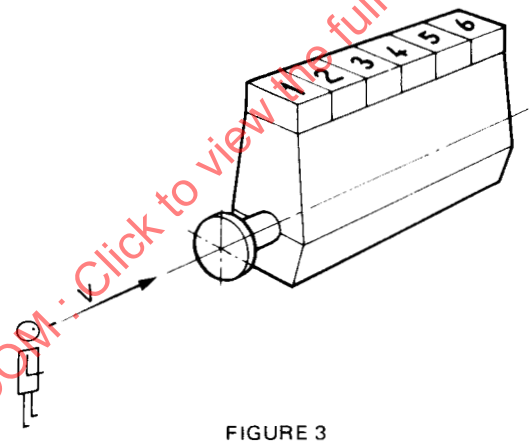


FIGURE 3

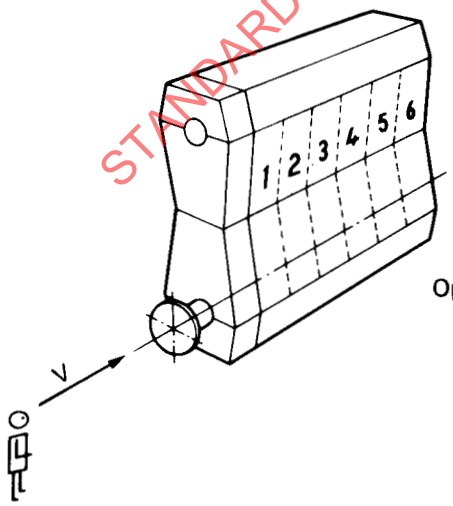


FIGURE 4

Opposed piston engines

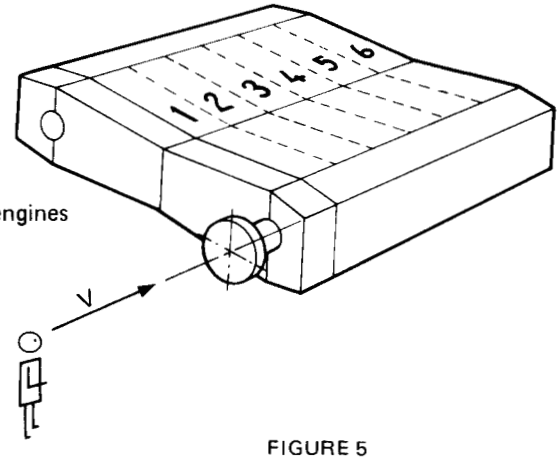
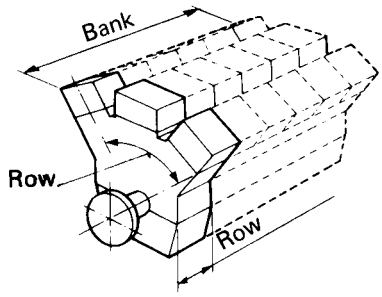


FIGURE 5



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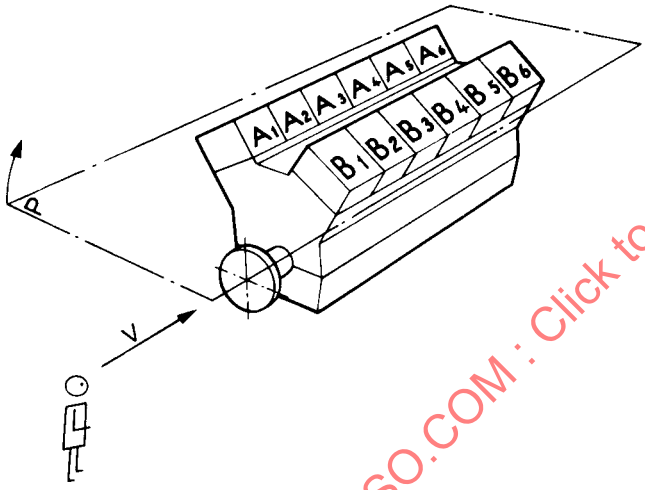
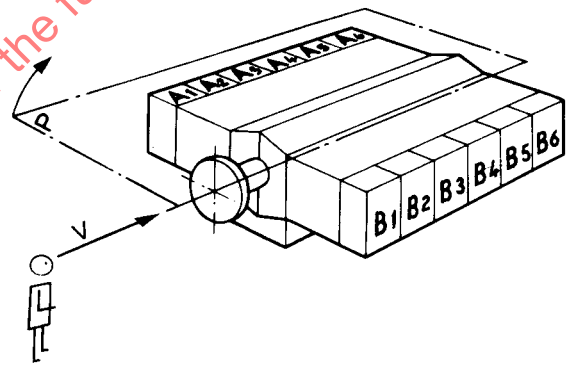


FIGURE 7



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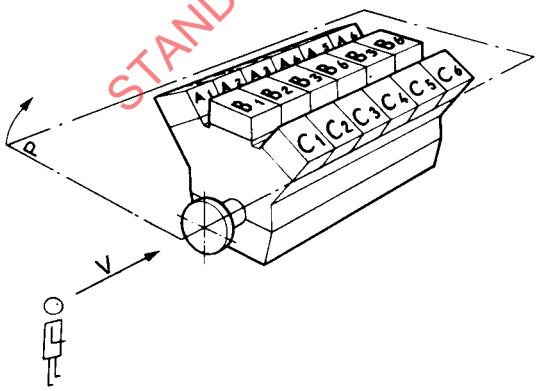


FIGURE 9

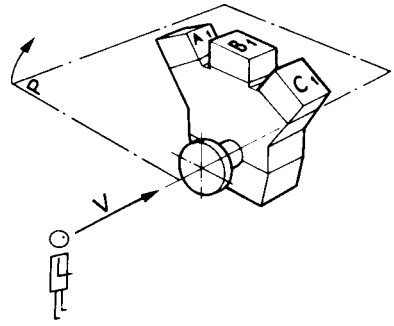


FIGURE 10

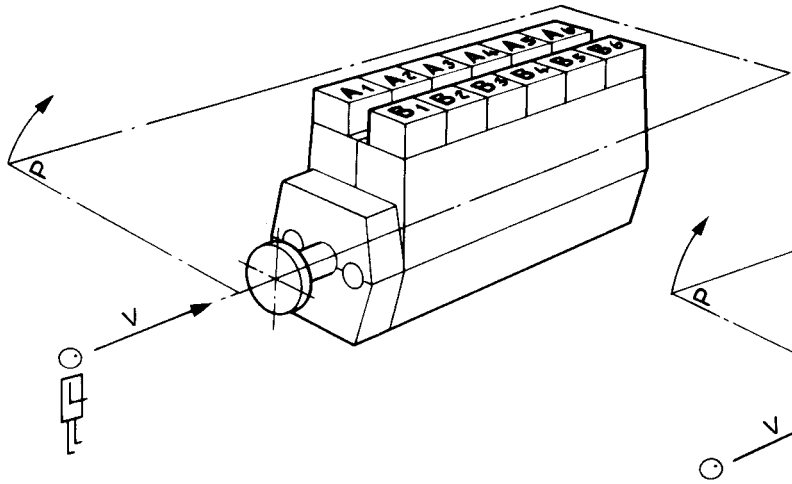
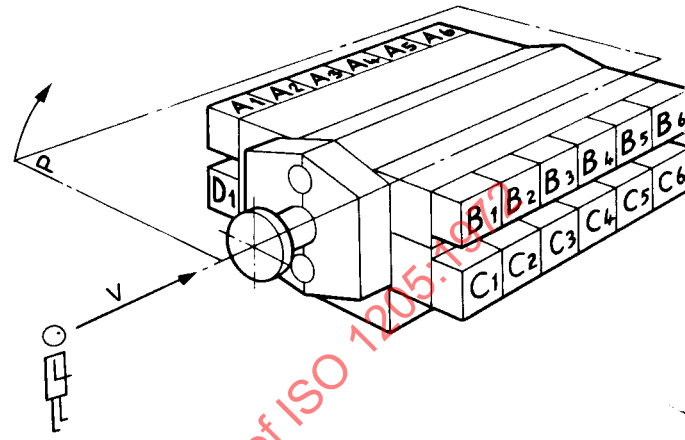


FIGURE 11



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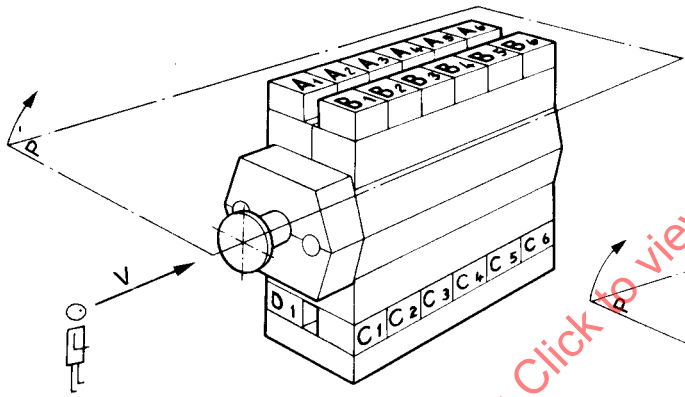

FIGURE 13

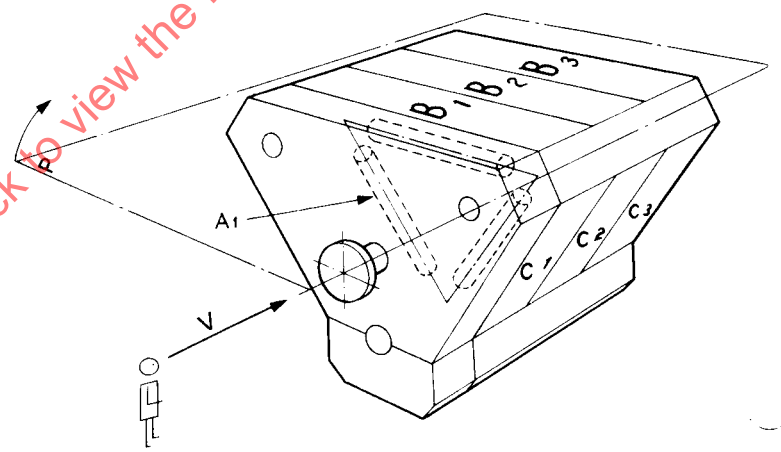

FIGURE 14

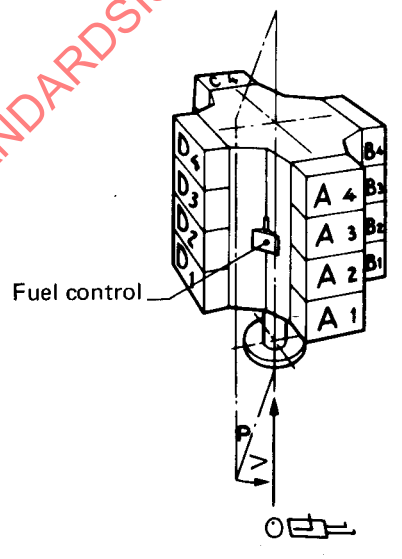

FIGURE 15