INTERNATIONAL STANDARD

ISO 3767-1

Third edition
1998-12-15

Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays —

Part 1:

Common symbols

Tracteurs, matériels agricoles et forestiers, matériel à moteur pour jardins et pelouses — Symboles pour les commandes de l'opérateur et autres indications —

Partie 1: Symboles communs

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 3767-1 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 14, *Operator controls, operator symbols and other displays, operator manuals*.

This third edition cancels and replaces the second edition (ISO 3767-1:1991), of which it constitutes a technical revision.

ISO 3767 consists of the following parts, under the general title *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays*:

— *Part 1: Common symbols*

— *Part 2: Symbols for agricultural tractors and machinery*

— *Part 3: Symbols for powered lawn and garden equipment*

— *Part 4: Symbols for forestry machinery*

— *Part 5: Symbols for manual portable forestry machinery*

Annex A of this part of ISO 3767 is for information only.

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Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays —

Part 1:
Common symbols

1 Scope

This part of ISO 3767 establishes the common symbols for use on operator controls and other displays on tractors and machinery for agriculture and forestry, and powered lawn and garden equipment as defined in ISO 339-0 and ISO 5395.

The symbols given apply to controls and displays common to tractors and machinery for agriculture and forestry, and powered lawn and garden equipment, as well as to other types of self-propelled work machines designed to operate off public roads, such as earth-moving machines, powered industrial trucks and mobile cranes.

NOTE 1 The foreword lists other parts of this International Standard, where symbols for specific forms of machinery and equipment may be found.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 3767. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 3767 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3461-1:1988, *General principles for the creation of graphical symbols — Part 1: Graphical symbols for use on equipment*.

ISO 4196:1984, *Graphical symbols — Use of arrows*.

ISO 7000:1989, *Graphical symbols for use on equipment — Index and synopsis*.

IEC 60417-1:1998, *Graphical symbols for use on equipment — Part 1: Overview and application*.

IEC 60417-2:1998, *Graphical symbols for use on equipment — Part 2: Symbol originals*.

3 Definition

For the purposes of all parts of this International Standard, the following definition applies.

3.1 symbol: Visually perceptible figure used to transmit information independently of language. It may be produced by drawing, printing or other means.

4 General

4.1 Symbols shall be as shown in succeeding clauses of this part of ISO 3767. However, symbols which are shown in outline form in this part of ISO 3767, may be shaded in actual use for clarity of reproduction and improved visual perception by the operator, except as otherwise noted for individual symbols.

4.2 Limitations inherent in some reproduction and display technologies may require increased line thickness or other minor modifications of symbols. Such modifications are acceptable provided the symbol remains unchanged in its basic graphical elements, and easily discernible by the operator.

4.3 Additionally, to improve the appearance and perceptibility of a graphical symbol or to coordinate with the design of the equipment to which it is applied, it may be necessary to change the line thickness or to round off the corners of the symbol. The graphical designer is normally free to make such changes provided that the essential perceptual characteristics of the symbol are maintained. See 10.2 in ISO 3461-1:1988.

4.4 For actual use, all symbols shall be reproduced large enough to be easily discernible by the operator. See ISO 3461-1 for guidelines for proper sizing of symbols. Symbols shall be used in the orientations shown in this part of ISO 3767 unless otherwise noted for individual symbols.

4.5 Most symbols are constructed using a building-block approach in which various symbols and symbol elements are combined in a logical manner to produce a new symbol. For example, symbol 8.4 for engine lubricating oil filter is a composite of symbol 6.1 for engine, symbol 6.5 for oil, and symbol 6.13 for filter.

4.6 If a symbol shows a machine or parts of a machine from a side view, a machine moving from right to left across the symbol grid area shall be assumed. If a symbol shows a machine or parts of a machine from an overhead view, a machine moving from bottom to top across the symbol grid area shall be assumed.

4.7 Symbols on controls and displays shall have good contrast to their background. A light symbol on a dark background is preferred for most controls. Displays may use either a light symbol on a dark background or a dark symbol on a light background, depending upon which alternative provides the best visual perception. When a symbol image is reversed (for example, black to white and vice versa) it shall be done for the entire symbol.

4.8 Symbols shall be located on or adjacent to the control or display that is being identified. Where more than one symbol is required for a control, the symbols shall be located in relation to the control such that movement of the controls towards the symbol shall effect the function depicted by that symbol.

4.9 Arrows used in symbols shall conform to the requirements of ISO 4196. ISO 3461-1 shall be consulted for the general principles of creating symbols.

4.10 ISO/IEC registration numbers are shown for symbols in this International Standard. Registration numbers below 5000 refer to ISO 7000. Registration numbers above 5000 refer to IEC 60417-1 and IEC 60417-2.

4.11 Letters and numerals may be used as symbols, but are not registered by ISO/TC 145 or published in ISO 7000. In 9.8 to 9.17, letters and numerals have the meaning indicated when used in association with transmission gear controls and displays on tractors and machinery for agriculture and forestry. The fonts shown in this part of ISO 3767 are not intended to be restrictive: other fonts may be substituted, but care shall be taken that legibility is maintained.

4.12 Symbols in this part of ISO 3767 are presented within the outer limits of a 24 mm square grid (32 % of original size on the ISO graphics grid). Corner marks delimit the corners of the 75 mm square graphics grid from ISO 3461-1. Corner marks are not part of the symbol itself, but are provided to ensure consistent presentation of all symbol graphics.

5 Colour

5.1 When used on illuminated displays, the following colours have the meanings indicated:

— red: failure or serious malfunction; requires immediate attention;

— yellow or amber: outside normal operating limits;

— green: normal operating condition.

5.2 In addition, certain colours are used for specific functions:

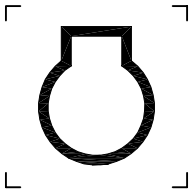
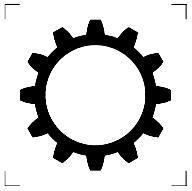
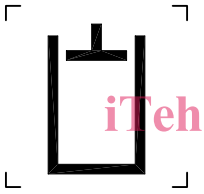
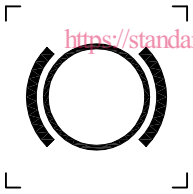
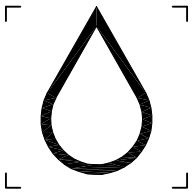
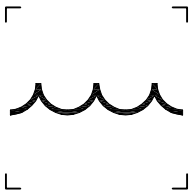
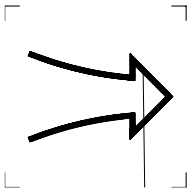
— blue: headlight main-/high-beam display;

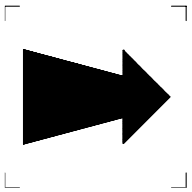
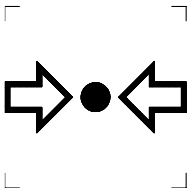
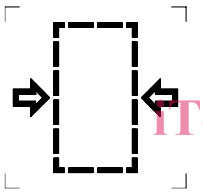
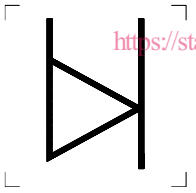
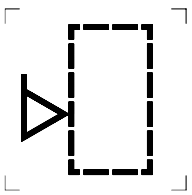
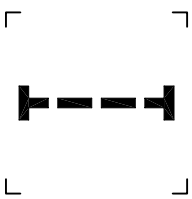
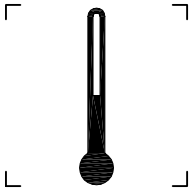
— red: hazard warning display;

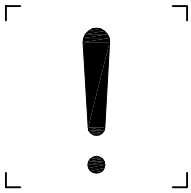
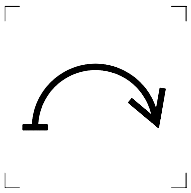
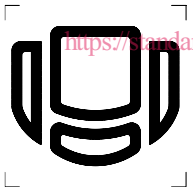
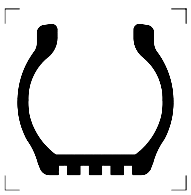
— green: turn signal display.

5.3 If colour is used on symbols for the heating and/or cooling systems, the colour red shall be used to indicate hot, and the colour blue shall be used to indicate cold.

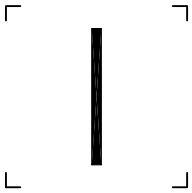
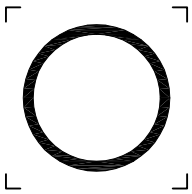
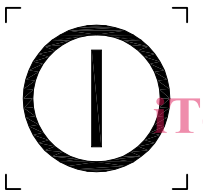
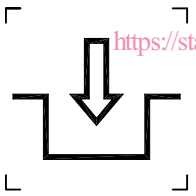
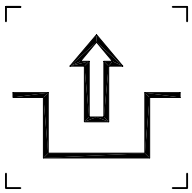
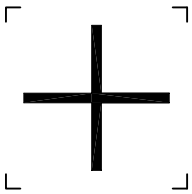
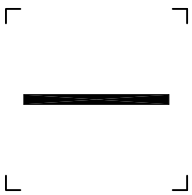
6 Basic symbol shapes

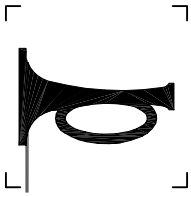
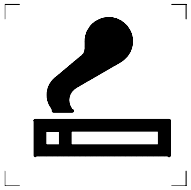
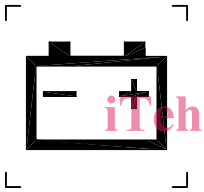
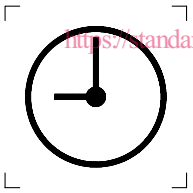
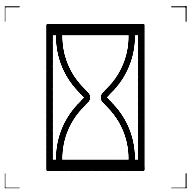
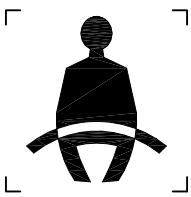
Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
6.1		Engine	1156
6.2		Transmission	1166
6.3		Hydraulic system	1409
6.4		Brake system	1399
6.5		Oil	1056
6.6		Coolant (water)	0536
6.7		Intake air [To be used as symbol element only in combination with other symbols (e.g., engine). Shall be outline in all applications.]	1604

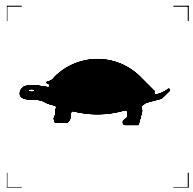
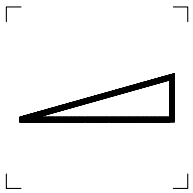
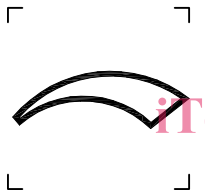
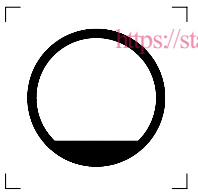
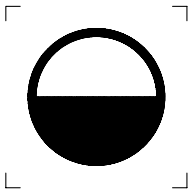
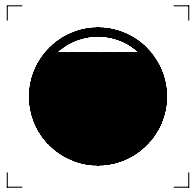
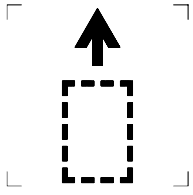
Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
6.8		Exhaust gas [To be used as symbol element only in combination with other symbols (e.g., engine). Shall be shaded in all applications.]	1605
6.9		Pressure (To be used where the medium under pressure is not specified.)	1701
6.10		Pressure (For the creation of a combined symbol where the medium under pressure is specified, replace the dashed rectangle with a symbol for the medium.)	Application examples are not registered
6.11		Level indicator	Application of 0159
6.12		Liquid level (For the creation of a combined symbol where the fluid being measured is specified, replace the dashed rectangle by a symbol for the fluid.)	Application examples are not registered
6.13		Filter	1369
6.14		Temperature	0034

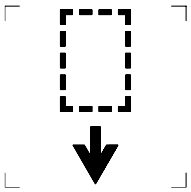
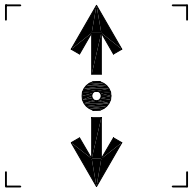
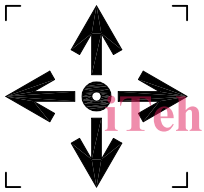
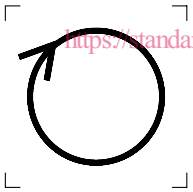
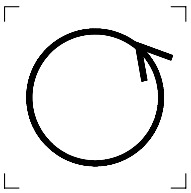
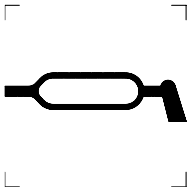
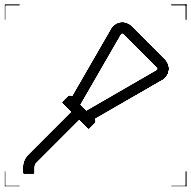
Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
6.15		Failure/malfunction (To be used as symbol element only in combination with other symbols.)	1603
6.16		Start switch/mechanism	1365
6.17		Seat — Side view	1705
6.18		Seat — Overhead view	2170
6.19		Tyre	2176

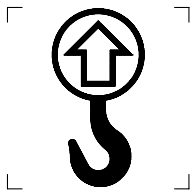
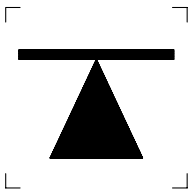
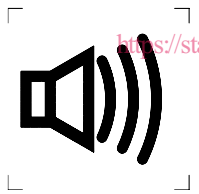
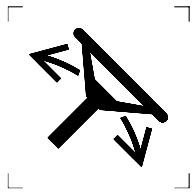
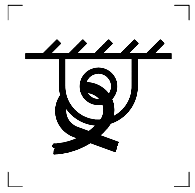
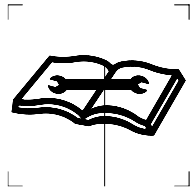
7 General symbols

Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
7.1		On/start	5007
7.2		Off/stop	5008
7.3		On and off	5010
7.4		Engage (Symbol may be rotated 90° for a clearer visual representation.)	0022
7.5		Disengage (Symbol may be rotated 90° for a clearer visual representation.)	0023
7.6		Plus/increase/positive polarity	5005
7.7		Minus/decrease/negative polarity	5006

Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
7.8		Horn	0244
7.9		Lighter	0620
7.10		Battery charging condition	0247
7.11		Clock/time switch/timer	5184
7.12		Hourmeter/elapsed operating hours	1366
7.13		Seatbelt — Lap belt only	1702
7.14		Fast	Application examples are not registered

Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
7.15		Slow	Application examples are not registered
7.16		Continuously variable — Linear	5004
7.17		Continuously variable — Rotational	1364
7.18		Volume empty	1563
7.19		Volume half-full	1564
7.20		Volume full	1565
7.21		Machine travel direction — Forward (Replace dashed rectangle with appropriate symbol. May be rotated 90° counter-clockwise for side view of forward travel direction.)	Application examples are not registered

Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
7.22		Machine travel direction — Reverse (Replace dashed rectangle with appropriate symbol. May be rotated 90° counter-clockwise for side view of reverse travel direction.)	Application examples are not registered
7.23		Control lever operating direction — Dual direction (Place appropriate symbols at extremes of directional arrows.)	1436
7.24		Control lever operating direction — Multiple direction (Place appropriate symbols at extremes of directional arrows.)	1703
7.25		Clockwise rotation	0258
7.26		Counter-clockwise rotation	0937
7.27		Grease lubrication point	0787
7.28		Oil lubrication point	0391

Symbol number	Symbol form/shape	Symbol description/application	ISO/IEC registration number
7.29		Lift point	1368
7.30		Jack or support point	0542
7.31		Draining/emptying	0029
7.32		Moving machine alarm	2104
7.33		Steering-wheel — Tilt control	2064
7.34		Tie-down point	2069
		Service indicator (from ISO 3767-2)	1659