INTERNATIONAL STANDARD

ISO 3767-1

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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

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

Reference number
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 23, *Tractors and machinery for agriculture and forestry*, SC 14, *Operator controls, operator symbols and other displays, operator manuals*.

This fourth edition cancels and replaces the third edition (ISO 3767-1:1998), which has been technically revised. It also incorporates the amendments ISO 3767-1:1998/Amd 1:2008 and ISO 3767-1:1998/Amd 2:2012. Many new symbols have been added.

A list of all the parts in the ISO 3767 series can be found on the ISO website.

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

Part 1: Common symbols

IMPORTANT — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

1 Scope

This document standardizes symbols for use on operator controls and other displays applicable to multiple types of agricultural tractors and machinery, forestry machinery, and powered lawn and garden equipment.

NOTE 1 ISO 3767-2 covers symbols for agricultural tractors and machinery. ISO 3767-3 covers symbols for powered lawn and garden equipment. ISO 3767-4 covers symbols for forestry machinery. ISO 3767-5 covers symbols for manual portable forestry machines.

NOTE 2 ISO 7000 and IEC 60417 can be consulted for additional internationally standardized symbols of potential relevance to agricultural tractors and machinery, forestry machinery, and powered lawn and garden equipment.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 80416-1, *Basic principles for graphical symbols for use on equipment — Part 1: Creation of graphical symbols for registration*

ISO 80416-2, *Basic principles for graphical symbols for use on equipment — Part 2: Form and use of arrows*

IEC 80416-3, *Basic principles for graphical symbols for use on equipment — Part 3: Guidelines for the application of graphical symbols*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
symbol
graphical symbol
visually perceptible figure used to transmit information independent of language

Note 1 to entry: It may be produced by drawing, printing or other means. Letters, numerals and mathematical symbols may be used as symbols or symbol elements. For some specific applications, groups of letters (for example, AUTO, STOP) are used as symbols or symbol elements.

Note 2 to entry: Letters and numerals are not registered by ISO/TC 145/SC 3 or published in ISO 7000 unless they are symbol elements embedded in graphical symbols.

3.2
icon
digital display icon
digitized (pixelated) representation of a graphical symbol, usually used on a reconfigurable electronic display screen or graphical user interface (GUI)

Note 1 to entry: A single symbol can be represented by multiple icons, each of a different size, pixel count or colorization.

4 General

4.1 Except where indicated in subsequent clauses, symbols shall be used as shown in this document.

4.2 Selected symbols, which are shown in outline form in this document, may be filled in actual use for enhanced clarity of reproduction and improved visual perception by the operator, except as otherwise specified for individual symbols, and in accordance with IEC 80416-3.

4.3 Limitations inherent in some reproduction and display technologies can require increased line width or other minor modifications of symbols. Such modifications are allowed, provided that the symbol remains conceptually unchanged in its basic graphical elements and is easily discernible by the operator.

4.4 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 can be necessary to modify the symbol as indicated in IEC 80416-3 (for example, to change the line width or to round the corners of the symbol). Such modifications are allowed, provided that the essential perceptible characteristics of the symbol are maintained.

4.5 For actual use, all symbols shall be reproduced large enough to be easily discernible by the operator. Follow IEC 80416-1 for the proper sizing of symbols. Symbols grouped together in a display or on a set of controls should be scaled to the same degree relative to the corner marks of the symbol original as shown in this document in order to maintain the correct visual relationship among the symbols. Symbols shall be used in the orientation shown in this document, unless rotation or mirror imaging is specifically allowed for individual symbols.

4.6 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.

4.7 In some cases, symbols may be used in conjunction, without being combined into a composite symbol, to convey the same meaning as the composite symbol.

4.8 Symbols are generally intended to replace a word or words with a graphical image that has the same meaning for all operators, regardless of their native language. However, the use of a graphical symbol to identify a control or display does not preclude the use of words in conjunction with that control or display.

4.9 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 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 area shall be assumed.

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

4.11 If symbols are cast, moulded, embossed or stamped into a surface, the symbols shall be visually distinct from that surface without dependence on colour.

4.12 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 control towards the symbols shall effect the function depicted by that symbol.

4.13 Arrows used in symbols shall conform to the requirements of ISO 80416-2. IEC 80416-1 shall be consulted for the general principles for creating symbol originals. IEC 80416-3 should be consulted for guidelines for the application of symbols.

4.14 ISO/IEC registration numbers are shown for symbols which are registered in ISO 7000 or IEC 60417.

NOTE Symbol originals are approved and registered either by ISO/TC 145/SC 3 and published in ISO 7000 or by IEC/SC 3C and published in IEC 60417. In some cases, modified or application symbols, rather than the registered symbol originals, are standardized in this document.

4.15 When letters or numerals are used in a symbol, the font shown shall not be considered definitive. Other fonts may be used so long as the letters and numerals remain legible.

4.16 Symbols in this document are shown within marks that delimit the corners of the 75 mm square basic pattern from IEC 80416-1. Corner marks are not part of the symbol, but are provided to ensure consistent presentation of all symbol graphics.

5 Colour

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

— red denotes a failure, serious malfunction or operating condition that requires immediate attention;

— yellow or amber denotes a condition outside normal operating limits;

— green denotes a normal operating condition.

5.2 In addition, certain colours shall be used for specific applications:

— blue is used for the high beam, upper beam display (see 15.1);

— red is used for the hazard warning display and for the hazard warning control (see 15.6);

— green is used for the turn signal display (see 15.10).

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

6 Development of new symbols

6.1 Prior to developing a new symbol, a search should be conducted for previously standardized symbols with the same or similar meaning to what is needed. ISO 7000 and IEC 60417 (both available in database form) are compilations of internationally standardized symbols which can be useful both for finding appropriate symbols that do not appear in ISO 3767 and for generating concepts that can be used in the development of new symbols.

6.2 New symbols shall be developed in accordance with the principles of Annex A of this document. IEC 80416-1 should be consulted for general principles for the creation of symbols. Arrows shall be in accordance with ISO 80416-2. Different arrow forms have different meanings according to ISO 80416-2. Care should be taken to use the correct arrow form. Following the guidelines of Annex A of this document makes possible the development of symbols appropriate in graphical form and content for international standardization and ISO 7000 registration.

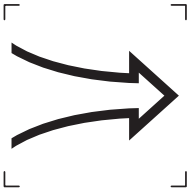
6.3 Symbols proposed for standardization in this document shall include a short explanation of the function or expected use of the symbol.

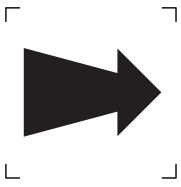
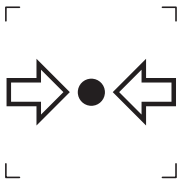
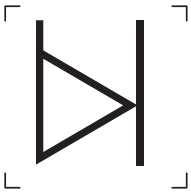
NOTE IEC 80416-1 uses the term "description" for this type of information and provides guidelines for writing descriptions for symbols intended for standardization in ISO 7000 or IEC 60417. The descriptions for symbols standardized in this document can serve as examples.

7 Adaptation of symbols as digital display icons

Symbols can be adapted for use as digital display icons on visual display units, reconfigurable displays or other electronic displays. Such adaptations should follow the principles of ISO 80416-4. Special care should be taken to ensure that digital display icons preserve the visual impression of the symbol from which the icon is adapted. The same principles regarding use of colour with symbols apply to the use of colour with digital display icons.

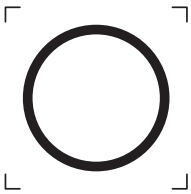
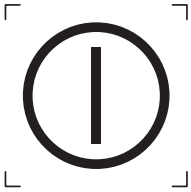
8 Base symbols

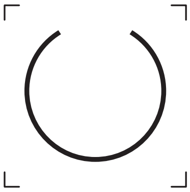
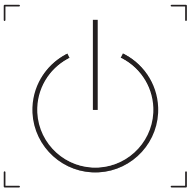
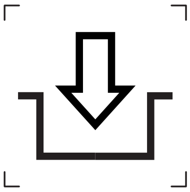
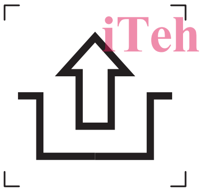
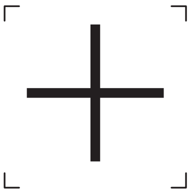
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.1		**Oil; fluid** To indicate oil or other non-water-base fluid. Use as a symbol element in combination with other symbols to indicate specified types of oil. This symbol may be used when the type of oil or fluid is not specified.	Application of ISO 7000-1056
8.2		**Water; coolant; water-base fluid** To indicate water, coolant or other water-base fluid. Use as a symbol element in combination with other symbols to indicate specified types of water-base fluid. This symbol may be used when the type of water-base fluid is not specified.	Application of ISO 7000-0536
8.3		**Intake air; air flow through** To indicate intake air. To indicate air flow into or through a tube or pipe. This symbol shall be used in outline.	Application of ISO 7000-1604

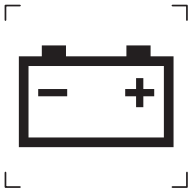
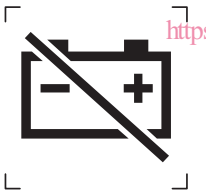
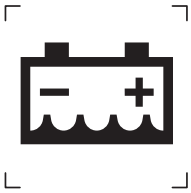
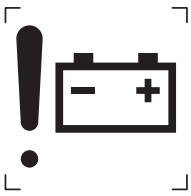
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.4		**Exhaust gas** To indicate exhaust gas. To indicate air flow out of a tube or pipe. This symbol shall be used filled.	ISO 7000-1605
8.5		**Pressure** To indicate pressure in general. Use as a symbol element in combination with other symbols to indicate the type of material that is under pressure. The filled circle may be deleted and an appropriate symbol inserted between the arrows.	ISO 7000-1701
8.6		**Level indicator** To identify the control that adjusts the amount of level of material in a container. To indicate the level of, for example, a liquid in a container. Use as a symbol element in combination with other symbols to indicate the type of material whose quantity is measured. The line at the right of the symbol may be deleted and an appropriate symbol inserted.	Application of ISO 7000-0159
8.7		**Filter** To indicate a filter for liquid or gas. Use as a symbol element in combination with other symbols to indicate the type of material that is filtered.	ISO 7000-1369
8.8		**Temperature** To indicate temperature or a function associated with temperature.	ISO 7000-0034
8.9		**Malfunction, general; failure** To indicate that a component or function has failed or malfunctioned. Use as a symbol element in combination with other symbols to indicate the component or function that has failed or malfunctioned.	ISO 7000-1603B

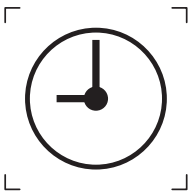
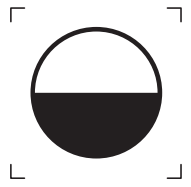
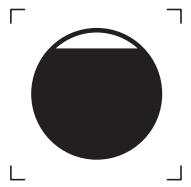
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.10		**Mass; weight** To indicate mass. To identify a function related to mass. ISO 7000-1321A and ISO 7000-1321B are alternative symbols with the same meaning.	Application of ISO 7000-1321A
8.11			ISO 7000-1321B
8.12		**Air, general** To indicate air in general. To indicate a function related to air in general.	Application of ISO 7000-0537

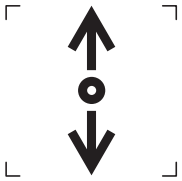
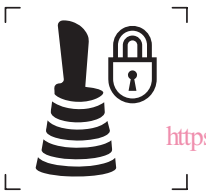
9 General symbols

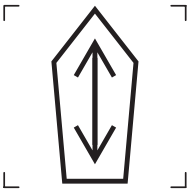
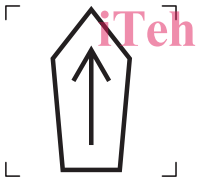
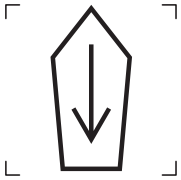
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.1		**On; start** To identify the control that starts a function or operation. To identify the control that enables a function or operation to be engaged or activated. Use independently or in conjunction with other symbols. Do not use as a graphical element with the meaning “on; start” within a combined symbol (see 4.6 and 4.7).	Application of IEC 60417-5007
9.2		**Off; stop** To identify the control that stops a function or operation. To identify the control that disables a function or operation to be engaged or activated. Use independently or in conjunction with other symbols. Do not use as a graphical element with the meaning “on; start” within a combined symbol (see 4.6 and 4.7).	Application of IEC 60417-5008
9.3		**On and off** To identify the control that, depending on its position or last activation, starts or stops a function or operation. Use independently or in conjunction with other symbols. Do not use as a graphical element with the meaning “on and off” within a combined symbol (see 4.6 and 4.7).	Application of IEC 60417-5010

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.4		**Ready** To indicate that the machine or equipment or function is ready for operation.	ISO 7000-1140
9.5		**Stand-by** To identify the control by which part of the equipment is switched on in order to bring the component or function into the stand-by condition.	IEC 60417-5009
9.6		**Engage** To identify the control that effects the engagement of two machine parts or elements, or the activation of a mechanical function. To indicate the engagement function. This symbol may be rotated 90° or 180° for a clearer visual representation.	Application of ISO 7000-0022
9.7		**Disengage** To identify the control that effects the disengagement of two machine parts or elements, or the deactivation of a mechanical function. To indicate the disengagement function. This symbol may be rotated 90° or 180° for a clearer visual representation.	Application of ISO 7000-0023
9.8		**Plus; increase; positive polarity** To identify the positive terminals of equipment which is used with or generates direct current. To indicate that a quantity is increasing or the direction of control movement that increases a quantity.	Application of IEC 60417-5005
9.9		**Minus; decrease; negative polarity** To identify the negative terminals of equipment which is used with or generates direct current. To indicate that a quantity is decreasing or the direction of control movement that decreases a quantity.	Application of IEC 60417-5006
9.10		**Lock** To identify the location of a lock. To identify the control that effects a locking function. To indicate that the component or function is in its locked state. ISO 7000-1656 and IEC 60417-5569 are alternative symbols with the same meaning.	ISO 7000-1656
9.11			Application of IEC 60417-5569

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.12		**Unlock** To identify the control that effects an unlocking function. To indicate that the component or function is in its unlocked state. ISO 7000-3305 and IEC 60417-5570 are alternative symbols with the same meaning.	ISO 7000-3305
9.13			Application of IEC 60417-5570
9.14		**Horn** To identify the control for the horn.	ISO 7000-0244
9.15		**Battery charging condition** To indicate whether the battery is charging. To indicate the operational status of the battery. When displayed on a red background, this symbol indicates that the battery has reached a low level of charge.	ISO 7000-0247
9.16		**Battery disconnect; battery shut-off** To identify the control that disconnects the battery from the electrical system. To indicate that the battery has been disconnected.	ISO 7000:2063
9.17		**Battery fluid level** To indicate the battery fluid level. To identify the battery fluid fill point.	ISO 7000-2455
9.18		**Battery, failure** To indicate that the battery has failed or malfunctioned.	Application of ISO 7000-2456

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.19		**Clock; time switch; timer** To identify clock or timer functions. To identify the control that activates a clock, time switch or timer. To identify the control that allows setting of time and date on electronic displays.	IEC 60417-5184
9.20		**Clock, malfunction** To indicate that the clock has malfunctioned.	ISO 7000-3395
9.21		**Hourmeter; elapsed operating hours** To indicate the number of hours that the machine or component has been operating. To indicate the operating interval at which service or maintenance functions should be performed.	ISO 7000-1366
9.22		Use as a symbol element to indicate a quantity per hour.	Application of ISO 7000-1366
9.23		**Volume, empty** To indicate that the container is empty. To identify the empty reading or indicator position on the display or container.	ISO 7000-1563
9.24		**Volume, half-full** To indicate that the container is half-full. To identify the half-full reading or indicator position on the display or container.	ISO 7000-1564
9.25		**Volume, full** To indicate that the container is full. To identify the full reading or indicator position on the display or container.	ISO 7000-1565

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.26		**Control lever operating direction, dual-direction** To indicate that the control operates in two directions. To indicate the directions in which the control moves. This symbol may be rotated to indicate the angle of control operation in two directions. Place appropriate symbols at arrowheads to indicate the action effected by movement of the control.	ISO 7000-1436
9.27		**Control lever operating direction, multiple-direction** To indicate that the control operates in multiple directions, generally forward-rearward and left-right. To indicate the directions in which the control moves. Place appropriate symbols at arrowheads to indicate the action effected by movement of the control.	ISO 7000-1703
9.28		**Joystick control mode** To identify the control that places the machine, equipment or function in joystick control mode. To indicate that the machine, equipment or function is in joystick control mode.	ISO 7000-3192
9.29		**Joystick control, lock** To identify the control or control position that deactivates the joystick control and thereby locks out the functionality of the control. To indicate that the joystick control is in the locked condition.	ISO 7000-3306
9.30		**Joystick control, off or not available** To indicate that the joystick control is not functional.	ISO 7000-3307

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.31		**Pull switch, switch position pulled out; pull to activate** To identify a control that is activated by pulling out. To indicate that the pull switch is pulled out (activated).	ISO 7000-1154
9.32		**Pull switch, switch position pushed in; push to deactivate** To identify a control that is deactivated by pushing in. To indicate that the pull switch is pushed in (deactivated).	ISO 7000-1155
9.33		**Forward or rearward movement, general** To identify the control or control that moves the machine in a forward or rearward direction. To indicate that the machine is moving forward or rearward. Use this symbol when identification of the machine type is not required or when an appropriate machine representation is not available.	ISO 7000-3517
9.34		**Forward movement, general** To identify the control or control that moves the machine in a forward direction. To indicate that the machine is moving forward. Use this symbol when identification of the machine type is not required or when an appropriate machine representation is not available.	ISO 7000-0775
9.35		**Rearward movement, general** To identify the control that moves the machine in a rearward direction. To indicate that the machine is moving rearward. Use this symbol when identification of the machine type is not required. Use this symbol when identification of the machine type is not required or when an appropriate machine representation is not available.	ISO 7000-0776
9.36		**Clockwise rotation** To identify clockwise rotational movement.	ISO 7000-0258
9.37		**Anti-clockwise rotation** To identify anti-clockwise rotational movement.	ISO 7000-0937