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

**Part 5:
Symbols for manual portable forestry
machines**

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

Partie 5: Symboles pour le matériel forestier portatif à main



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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General	2
5 Colour	3
6 Development of new symbols	3
7 Adaptation of symbols as digital display icons	4
8 Chain saw and brush saw symbols	4
Bibliography	6

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 second edition cancels and replaces the first edition (ISO 3767-5:1992), which has been technically revised. It also incorporates the amendment ISO 3767-5:1992/Amd 1:2001. 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 5: Symbols for manual portable forestry machines

1 Scope

This document standardizes symbols for use specifically on operator controls and other displays on manual portable forestry machines such as chain saws and brush saws.

NOTE 1 ISO 3767-1 covers common symbols that apply to multiple types of agricultural tractors and machinery, forestry machinery, and powered lawn and garden equipment. 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.

NOTE 2 ISO 7000 and IEC 60417 can be consulted for additional internationally standardized symbols of potential relevance to manual portable forestry machines.

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.

ISO 3767-1:2016, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays—Part 1: Common symbols*

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 colourization.

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

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.

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 ISO 3767-1:2016, Annex A. 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 ISO 3767-1:2016, Annex A 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 Chain saw and brush saw symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.1		<p>Fuel and oil mixture</p> <p>To indicate the mixture of fuel and oil for a two-cycle spark ignition (gasoline) engine.</p> <p>The correct mixture may be specified by a numerical indicator of the percentage of oil in the mixture (for example, 4 %) or of the oil-to-fuel ratio (for example, 1:32).</p>	Application of ISO 7000-1598
8.2		<p>Chain oil; chain oil pump</p> <p>To identify the fill point for chain oil.</p> <p>To identify the location where chain oil should be applied to the chain.</p> <p>To identify the container for chain oil.</p> <p>To indicate that chain oil needs to be applied to the chain or added at the designated fill point.</p> <p>To identify the control for lubricating the saw chain. Use symbol as shown for manual oil pump. For automatic oil pump, use this symbol in combination with a continuously variable symbol (ISO 7000-1364 or IEC 60417-5004).</p>	Application of ISO 7000-1599
8.3		<p>Choke, open</p> <p>To identify the control that opens the engine choke mechanism.</p> <p>To indicate that the choke is in the open condition.</p>	ISO 7000-2589

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.4		<p>Choke, closed</p> <p>To identify the control that closes the engine choke mechanism.</p> <p>To indicate that the choke is in the closed condition.</p>	ISO 7000-2590
8.5		<p>Heated handle</p> <p>To identify the control for heating the handle of the chain saw.</p> <p>To indicate the operational status of the heated handle.</p>	Application of ISO 7000-1600
8.6		<p>Decompression valve</p> <p>To identify the control for the decompression valve, which releases pressure in the chain saw engine.</p> <p>The direction of operation may be indicated by an arrow.</p>	Application of ISO 7000-2591
8.7		<p>Output shaft, speed</p> <p>To identify the control that sets or adjusts the speed of the rotational output shaft. To indicate the output shaft speed.</p> <p>Maximum shaft speed may be indicated by a numerical indicator of rotational speed, for example "≤1 000 n/min".</p> <p>An arrow indicating the direction of rotation may be added to the symbol.</p>	Application of ISO 7000-2592
8.8		<p>Engine, manual start (pull start)</p> <p>To identify the control that starts the engine by manually pulling a handle.</p> <p>To indicate that the engine can be started manually.</p>	Application of ISO 7000-1601
8.9		<p>Carburettor adjustment, low speed mixture</p> <p>To identify the control that adjusts the fuel-to-air mixture in the carburettor to the low speed setting.</p> <p>The same letter is standardized in ISO 3767-1 with the title "Transmission, low gear; transmission, low gear range".</p>	Letters used as symbols are not registered.
8.10		<p>Carburettor adjustment, high speed mixture</p> <p>To identify the control that adjusts the fuel-to-air mixture in the carburettor to the high speed setting.</p> <p>The same letter is standardized in ISO 3767-1 with the title "Transmission, high gear; transmission, high gear range".</p>	Letters used as symbols are not registered.
8.11		<p>Carburettor adjustment, idle speed</p> <p>To identify the control that adjusts the carburettor to the idle speed setting.</p>	Letters used as symbols are not registered.

Bibliography

- [1] ISO 3767-2, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays—Part 2: Symbols for agricultural tractors and machinery*
- [2] ISO 3767-3, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays—Part 3: Symbols for powered lawn and garden equipment*
- [3] ISO 3767-4, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 4: Symbols for forestry machinery*
- [4] ISO 7000,¹⁾ *Graphical symbols for use on equipment — Registered symbols*
- [5] ISO 80416-4, *Basic principles for graphical symbols for use on equipment — Part 4: Guidelines for the adaptation of graphical symbols for use on screens and displays (icons)*
- [6] IEC 60417,¹⁾ *Graphical symbols for use on equipment*

1) The graphical symbol collections of ISO 7000 and IEC 60417 can be previewed and purchased on the Online Browsing Platform (OBP), www.iso.org/obp

