INTERNATIONAL STANDARD

ISO 3767-4

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

Part 4: Symbols for forestry machinery

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

Partie 4: Symbols pour le matériel forestier

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 second edition cancels and replaces the first edition (ISO 3767-4:1993), which has been technically revised. It also incorporates the amendments ISO 3767-4:1993/Amd 1:2000 and ISO 3767-4:1993/Amd 2:2008. 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 4: Symbols for forestry machinery

1 Scope

This document standardizes symbols for use on operator controls and other displays on forestry machinery.

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 3767-5 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 forestry machinery.

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.

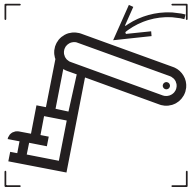
6.3 Symbols proposed for standardization in this document shall include a short explanation of the function or expected use of the symbol.

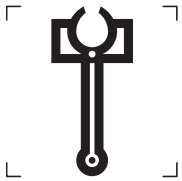
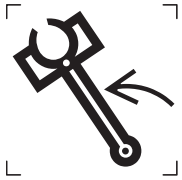
NOTE IEC 80416-1 uses the term "description" for this type of information and provides guidelines for writing descriptions for symbols intended for standardization in ISO 7000 or IEC 60417. The descriptions for symbols standardized in this document can serve as examples.

7 Adaptation of symbols as digital display icons

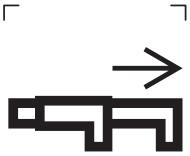
Symbols can be adapted for use as digital display icons on visual display units, reconfigurable displays or other electronic displays. Such adaptations should follow the principles of ISO 80416-4. Special care should be taken to ensure that digital display icons preserve the visual impression of the 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 Tree harvester and feller buncher symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.1		**Tree harvester/feller buncher, boom/arm** To identify the control for movement of the boom and arm of the tree harvester or feller buncher.	ISO 7000-1709
8.2		**Tree harvester/feller buncher, boom, raise** To identify the control that raises the boom of the tree harvester or feller buncher. To indicate that the boom is being raised or is in the raised (up) position.	ISO 7000-2050
8.3		**Tree harvester/feller buncher, boom, lower** To identify the control that lowers the boom of the tree harvester or feller buncher. To indicate that the boom is being lowered or is in the lowered (down) position.	ISO 7000-2049
8.4		**Tree harvester/feller buncher, arm, out** To identify the control that moves the arm of the tree harvester or feller buncher outward away from the machine by increasing the angle between the boom and arm. To indicate that the arm is being moved outward or is in the out position.	ISO 7000-1710

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
8.5		**Tree harvester/feller buncher, arm, in** To identify the control that moves the arm of the tree harvester or feller buncher inward toward the machine by decreasing the angle between the boom and arm. To indicate that the arm is being moved inward or is in the in position.	ISO 7000-1711
8.6		**Tree harvester/feller buncher, boom swing** To identify the control that swings the boom to the left or right. This symbol is viewed from the perspective of a person looking at the boom from above the machine.	ISO 7000-1712
8.7		**Tree harvester/feller buncher, boom, swing left** To identify the control that swings the boom to the left. To indicate that the boom is swinging to the left. This symbol is viewed from the perspective of a person looking at the boom from above the machine.	ISO 7000-1713
8.8		**Tree harvester/feller buncher, boom, swing right** To identify the control that swings the boom to the right. To indicate that the boom is swinging to the right. This symbol is viewed from the perspective of a person looking at the boom from above the machine.	ISO 7000-1714

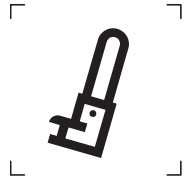
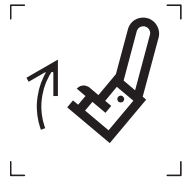
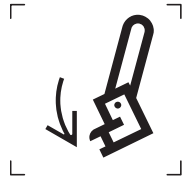
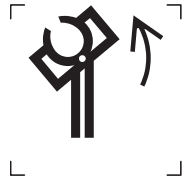
9 Delimber symbols

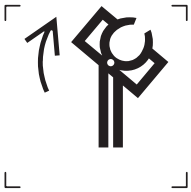
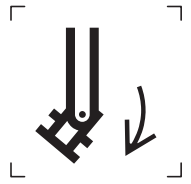
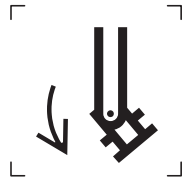
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.1		**Delimber, sliding boom** To identify the control for operation of the sliding boom of the delimber.	ISO 7000-2051
9.2		**Delimber, sliding boom, out** To identify the control that moves the sliding boom of the delimber out. To indicate that the sliding boom is in the out position.	ISO 7000-2052
9.3		**Delimber, sliding boom, in** To identify the control that moves the sliding boom of the delimber in. To indicate that the sliding boom is in the in position.	ISO 7000-2054

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.4		**Delimber, butt plate** To identify the control for operation of the butt plate of the delimber.	ISO 7000-2053
9.5		**Delimber, butt plate, up** To identify the control that moves the butt plate of the delimber to the up position. To indicate that the butt plate is in the up position.	ISO 7000-2055
9.6		**Delimber, butt plate, down** To identify the control that moves the butt plate of the delimber to the down position. To indicate that the butt plate is in the down position.	ISO 7000-2056
9.7		**Delimber, fixed jaw** To identify the control for operation of the fixed jaw of the delimber. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2057
9.8		**Delimber, fixed jaw, open** To identify the control that opens the fixed jaw of the delimber. To indicate that the fixed jaw is in the open position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2058
9.9		**Delimber, fixed jaw, close** To identify the control that closes the fixed jaw of the delimber. To indicate that the fixed jaw is in the closed position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2059

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
9.10		**Delimber, mobile jaw** To identify the control for operation of the fixed jaw of the delimber. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2060
9.11		**Delimber, mobile jaw, open** To identify the control that opens the mobile jaw of the delimber. To indicate that the mobile jaw is in the open position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2061
9.12		**Delimber, mobile jaw, close** To identify the control that closes the mobile jaw of the delimber. To indicate that the mobile jaw is in the closed position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2062

10 Felling equipment symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
10.1		**Felling head** To identify the control for operation the felling head.	ISO 7000-1717
10.2		**Felling head, tilt up** To identify the control that tilts the felling head up. To indicate that the felling head is being tilted up or is in the up-tilted position.	ISO 7000-1718
10.3		**Felling head, tilt down** To identify the control that tilts the felling head down. To indicate that the felling head is being tilted down or is in the down-tilted position.	ISO 7000-1719
10.4		**Fixed boom felling head, turn left** To identify the control that turns the felling head on a fixed boom to turn to the left. To indicate that the felling head is turning to the left. This symbol is viewed from the perspective of a person looking at the boom and felling head from above the machine.	ISO 7000-1715

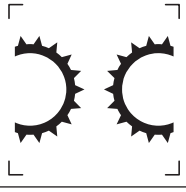
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
10.5		**Fixed boom felling head, turn right** To identify the control that turns the felling head on a fixed boom to turn to the right. To indicate that the felling head is turning to the right. This symbol is viewed from the perspective of a person looking at the boom and felling head from above the machine.	ISO 7000-1716
10.6		**Felling head, side tilt, left** To identify the control that tilts the felling head sideways to the left. To indicate that the felling head is tilting sideways to the left. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1720
10.7		**Felling head, side tilt, right** To identify the control that tilts the felling head sideways to the right. To indicate that the felling head is tilting sideways to the right. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1721
10.8		**Felling shear** To identify the control for operation of the felling shear. This symbol is viewed from the perspective of a person looking at the shear from above the machine.	ISO 7000-1722
10.9		**Felling shear, open** To identify the control that opens the blades of the felling shear. To indicate that the blades of the felling shear are opening or are in the open position. This symbol is viewed from the perspective of a person looking at the shear from above the machine.	ISO 7000-1723
10.10		**Felling shear, close** To identify the control that closes the blades of the felling shear. To indicate that the blades of the felling shear are closing or are in the closed position. This symbol is viewed from the perspective of a person looking at the shear from above the machine.	ISO 7000-1724

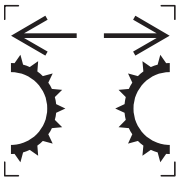
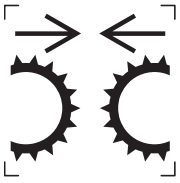
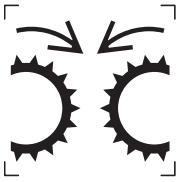
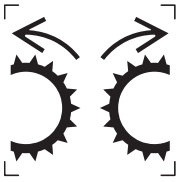
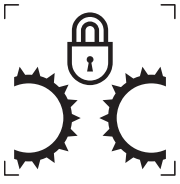
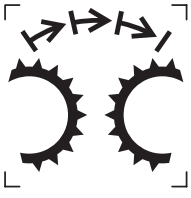
11 Bunk jaws (grab arms) symbols

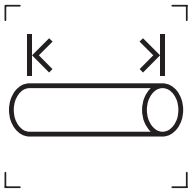
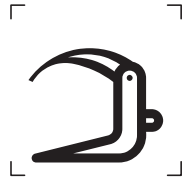
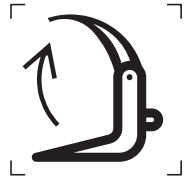
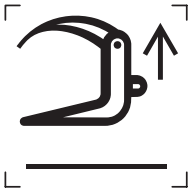
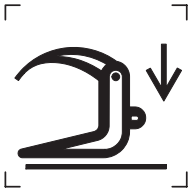
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
11.1		**Bunk jaws (grab arms)** To identify the control for operation of the bunk jaws (grab arms).	ISO 7000-1725
11.2		**Bunk jaws (grab arms), open** To identify the control that opens the bunk jaws (grab arms). To indicate that the bunk jaws (grab arms) are opening or are in the opened position.	ISO 7000-1726
11.3		**Bunk jaws (grab arms), close** To identify the control that closes the bunk jaws (grab arms). To indicate that the bunk jaws (grab arms) are closing or are in the closed position.	ISO 7000-1727
11.4		**Bunk jaws (grab arms), left jaw/arm, open** To identify the control that moves out the left jaw (arm) of the bunk jaws (grab arms). To indicate that the left jaw (arm) is opening or is in the opened position.	ISO 7000-1728
11.5		**Bunk jaws (grab arms), left jaw/arm, close** To identify the control that closes the left jaw (arm) of the bunk jaws (grab arms). To indicate that the left jaw (arm) is closing or is in the closed position.	ISO 7000-1729
11.6		**Bunk jaws (grab arms), right jaw/arm, open** To identify the control that moves out the right jaw (arm) of the bunk jaws (grab arms). To indicate that the right jaw (arm) is opening or is in the opened position.	ISO 7000-1730

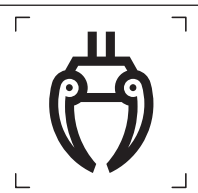
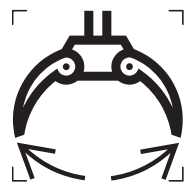
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
11.7		**Bunk jaws (grab arms), right jaw/arm, close** To identify the control that closes the right jaw (arm) of the bunk jaws (grab arms). To indicate that the right jaw (arm) is closing or is in the closed position.	ISO 7000-1731
11.8		**Bunk jaws (grab arms), ropes, tighten** To identify the control that tightens the ropes of the bunk jaws (grab arms). To indicate that the ropes are tightening or are in the tightened position.	ISO 7000-1732
11.9		**Bunk jaws (grab arms), ropes, slacken** To identify the control that slackens (loosens) the ropes of the bunk jaws (grab arms). To indicate that the ropes are slackening or are in the slack position.	ISO 7000-1733

12 Log handling equipment symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
12.1		**Log accumulator** To identify the control for operation of the log accumulator. This symbol is viewed from the perspective of a person looking at the accumulator from above the machine.	ISO 7000-1734
12.2		**Log accumulator, open** To identify the control that opens the mobile arm of the log accumulator. To indicate that the log accumulator is opening or is in the open position. This symbol is viewed from the perspective of a person looking at the accumulator from above the machine.	ISO 7000-1735
12.3		**Log accumulator, close** To identify the control that closes the mobile arm of the log accumulator. To indicate that the log accumulator is closing or is in the closed position. This symbol is viewed from the perspective of a person looking at the accumulator from above the machine.	ISO 7000-1736
12.4		**Log feeder** To identify the control for operation of the log feeder. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-1737

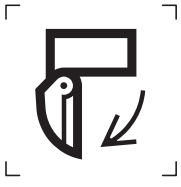
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
12.5		**Log feeder, open** To identify the control that increases the distance between the feeder rolls. To indicate that the feeder rolls are opening or are in the open position. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-1738
12.6		**Log feeder, close** To identify the control that decreases the distance between the feeder rolls. To indicate that the feeder rolls are closing or are in the closed position. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-1739
12.7		**Log feeder, feed in** To identify the control that rotates the feeder rolls to pull the log through the rolls inward toward the machine. To indicate that the feeder rolls are rotating inward. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-1740
12.8		**Log feeder, feed out** To identify the control that rotates the feeder rolls to pull the log through the rolls outward away from the machine. To indicate that the feeder rolls are rotating outward. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-1741
12.9		**Log feeder, added clamp force** To identify the control that increases the clamping force exerted on log feeder rollers. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-2805
12.10		**Log feeder, stop/lock** To identify the control that locks the feeder rolls to prevent rotation and therefore to prevent longitudinal movement of the log. To indicate that the feeder rolls are in the stopped and locked condition. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-1742
12.11		**Log feeder, stepwise rotation** To identify the control that rotates the log feeder rollers in small incremental steps rather than a continuous movement. This symbol is viewed from the perspective of a person looking at the feeder from above the machine.	ISO 7000-2806

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
12.12		**Log length** To identify the control for determining the length of the log to be cut. To indicate the specified or actual log length. Indicate an increase of log length by "+" and a decrease of log length by "–".	ISO 7000-2817
12.13		**Log clamp** To identify the control for operation of the log clamp.	ISO 7000-1743
12.14		**Log clamp, open** To identify the control that opens the mobile arm of the log clamp. To indicate that the log clamp is opening or is in the open position.	ISO 7000-1744
12.15		**Log clamp, close** To identify the control that closes the mobile arm of the log clamp. To indicate that the log clamp is closing or is in the closed position.	ISO 7000-1745
12.16		**Log clamp, raise** To identify the control that raises the log clamp. To indicate that the log clamp is being raised or is in the raised (up) position.	ISO 7000-3501
12.17		**Log clamp, lower** To identify the control that lowers the log clamp. To indicate that the log clamp is being lowered or is in the lowered (down) position.	ISO 7000-3502
12.18		**Log clamp, float** To identify the control that allows the log clamp to move up or down according to the contour of the ground. To indicate that the log clamp is in the float position.	ISO 7000-3460
12.19		**Log clamp, hold** To identify the control that holds the mobile arm of the log lamp in its current position. To indicate that the log clamp is in the hold condition.	ISO 7000-1746

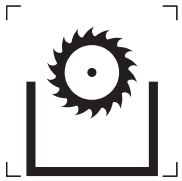
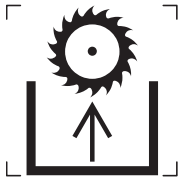
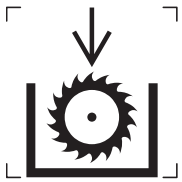
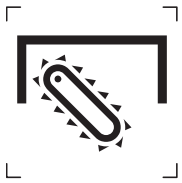
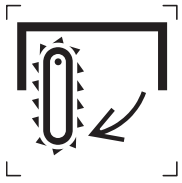
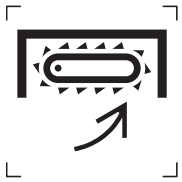
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
12.20		**Log clamp, tilt forward** To identify the control that tilts the log clamp forward. To indicate that the log clamp is being tilted forward.	ISO 7000-3503
12.21		**Log clamp, tilt rearward** To identify the control that tilts the log clamp rearward. To indicate that the log clamp is being tilted rearward.	ISO 7000-3461
12.22		**Log grapple** To identify the control for operation of the log grapple. The grapple is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1747
12.23		**Log grapple, open** To identify the control that opens the arms of the log grapple. To indicate that the log grapple is opening or is in the open position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1748
12.24		**Log grapple, close** To identify the control that closes the arms of the log grapple. To indicate that the log grapple is closing or is in the closed position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1749

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
12.25		**Log grapple, rotate** To identify the control that rotates the log grapple in either the clockwise or the anti-clockwise direction. To indicate that the log grapple is free to rotate in either the clockwise or anti-clockwise direction. The arrow indicating rotation of the grapple is viewed from the perspective of a person looking at the grapple from above the machine.	ISO 7000-1750
12.26		**Log grapple, rotate clockwise** To identify the control that rotates the log grapple in the clockwise direction. To indicate that the log grapple is rotating clockwise. The arrow indicating rotation of the grapple is viewed from the perspective of a person looking at the grapple from above the machine.	ISO 7000-1751
12.27		**Log grapple, rotate anti-clockwise** To identify the control that rotates the log grapple in the anti-clockwise direction. To indicate that the log grapple is rotating anti-clockwise. The arrow indicating rotation of the grapple is viewed from the perspective of a person looking at the grapple from above the machine.	ISO 7000-1752

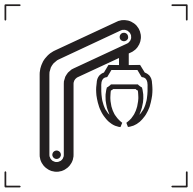
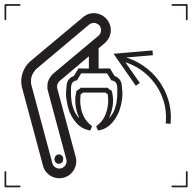
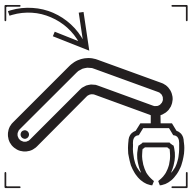
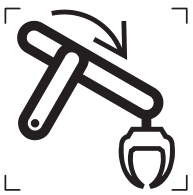
13 Topping knife symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
13.1		**Topping knife** To identify the control for operation of the topping knife. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1753
13.2		**Topping knife, open** To identify the control that opens the topping knife. To indicate that the topping knife is opening or is in the open position. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1754
13.3		**Topping knife, close** To identify the control that closes the topping knife. To indicate that the topping knife is closing or is in the closed position. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1755

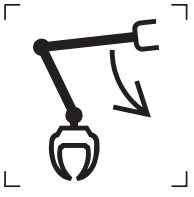
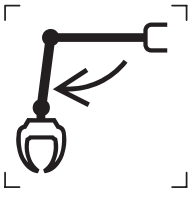
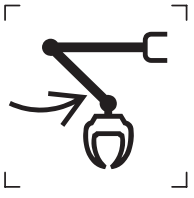
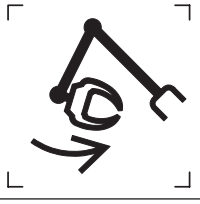
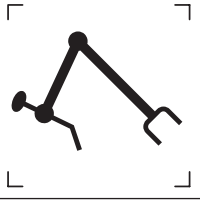
14 Saw symbols

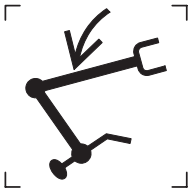
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
14.1		**Circular saw** To identify the control for operation of the circular saw. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1756
14.2		**Circular saw, out** To identify the control that moves the circular saw out from its protective guard and rotates the saw. To indicate that the circular saw is moving out or is in the out position and is rotating. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1757
14.3		**Circular saw, in** To identify the control that moves the circular saw into its protective guard. To indicate that the circular saw is moving in or is in the in position. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1758
14.4		**Chain saw** To identify the control for operation of the chain saw. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1759
14.5		**Chain saw, out** To identify the control that moves the chain saw out from its protective guard and rotates the chain. To indicate that the chain saw is moving out or is in the out position and the chain is rotating. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1760
14.6		**Chain saw, in** To identify the control that moves the chain saw into its protective guard. To indicate that the chain saw is moving in or is in the in position. Orient symbol as appropriate to the actual machine operation.	ISO 7000-1761

15 Grapple skidder symbols

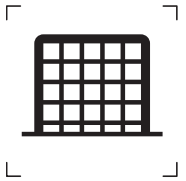
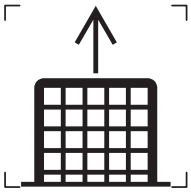
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
15.1		**Grapple skidder, single function boom** To identify the control for operation of the single function boom of the grapple skidder.	Application of ISO 7000-1762
15.2		**Grapple skidder, single function boom, up/in** To identify the control that moves the single function boom up and in toward the machine. To indicate that the boom is moving up and in or is in the up and in position.	Application of ISO 7000-1763
15.3		**Grapple skidder, single function boom, down/out** To identify the control that moves the single function boom down and out away from the machine. To indicate that the boom is moving down and out or is in the down and out position.	Application of ISO 7000-1764
15.4		**Grapple skidder, double function boom** To identify the control for operation of the double function boom of the grapple skidder.	Application of ISO 7000-1765
15.5		**Grapple skidder, double function boom, out** To identify the control that moves the double function boom out. To indicate that the boom is moving outward or is in the out position.	Application of ISO 7000-1766
15.6		**Grapple skidder, double function boom, in** To identify the control that moves the double function boom in. To indicate that the boom is moving inward or is in the in position.	Application of ISO 7000-1767
15.7		**Grapple skidder, double function boom, up** To identify the control that raises the boom. To indicate that the boom is moving up or is in the raised (up) position.	Application of ISO 7000-1768
15.8		**Grapple skidder, double function boom, down** To identify the control that lowers the boom. To indicate that the boom is moving down or is in the lowered (down) position.	Application of ISO 7000-1769

16 Log loader symbols

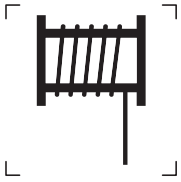
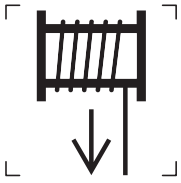
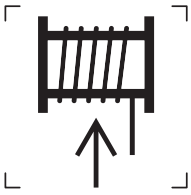
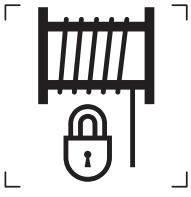
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.1		**Log loading equipment** To identify the loading equipment for the log loader. Use as a symbol element in the development of related symbols.	ISO 7000-1782
16.2		**Log loader, main boom, raise** To identify the control that raises the main boom of the log loader. To indicate that the main boom is being raised or is in the raised position.	ISO 7000-1775
16.3		**Log loader, main boom, lower** To identify the control that lowers the main boom of the log loader. To indicate that the main boom is being lowered or is in the lowered position.	ISO 7000-1774
16.4		**Log loader, secondary boom, out** To identify the control that moves the secondary boom of the log loader out (away from the machine). To indicate that the secondary boom is being moved out.	ISO 7000-1780
16.5		**Log loader, secondary boom, in** To identify the control that moves the secondary boom of the log loader in (toward the machine). To indicate that the secondary boom is being moved in.	ISO 7000-1779
16.6		**Log loader, grapple, move in** To identify the control that decreases the angle between the grapple and the secondary boom of the log loader.	ISO 7000-3504
16.7		**Log loader, grapple, move out** To identify the control that increases the angle between the grapple and the secondary boom of the log loader.	ISO 7000-3505
16.8		**Heel boom log loader equipment** To identify the loading equipment for heel boom log loaders. Use as a symbol element in the development of related symbols.	ISO 7000-3324

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
16.9		**Heel boom log loader, main boom, raise** To identify the control that raises the main boom of the heel boom log loader. To indicate that the heel boom log loader main boom is being raised or is in the raised position.	ISO 7000-3462
16.10		**Heel boom log loader, main boom, lower** To identify the control that lowers the main boom of the heel boom log loader. To indicate that the heel boom log loader main boom is being lowered or is in the lowered position.	ISO 7000-3506
16.11		**Heel boom log loader, secondary boom, out** To identify the control that moves the secondary boom of the heel boom loader out (away from the machine), thereby increasing the angle between the secondary boom and the main boom. To indicate that the heel boom log loader secondary boom is being moved out.	ISO 7000-3507
16.12		**Heel boom log loader, secondary boom, in** To identify the control that moves the secondary boom of the heel boom loader in (toward the machine), thereby decreasing the angle between the secondary boom and the main boom. To indicate that the heel boom log loader secondary boom is being moved in.	ISO 7000-3508
16.13		**Heel boom log loader, heel boom, in** To identify the control that moves the live heel of the heel boom log loader in (toward the machine), thereby decreasing the angle between the live heel and the secondary boom.	ISO 7000-3325
16.14		**Heel boom log loader, heel boom, out** To identify the control that moves the live heel of the heel boom log loader out (away from the machine), thereby increasing the angle between the live heel and the secondary boom.	ISO 7000-3516

17 Load bunk headboard symbols

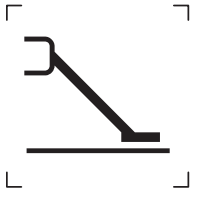
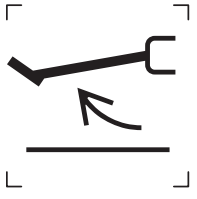
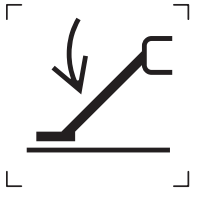
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
17.1		**Load bunk headboard** To identify the control for operation of the load bunk headboard. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1783
17.2		**Load bunk headboard, up** To identify the control that raises the load bunk headboard. To indicate that the load bunk headboard is being raised or is in the raised position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1785
17.3		**Load bunk headboard, down** To identify the control that lowers the load bunk headboard. To indicate that the load bunk headboard is being lowered or is in the lowered position. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1784

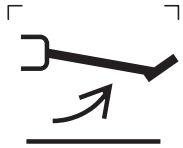
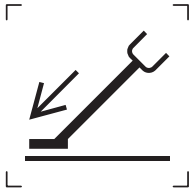
18 Winch symbols

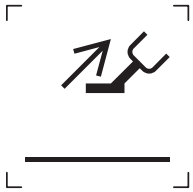
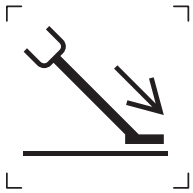
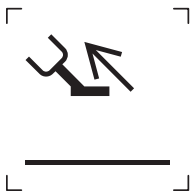
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.1		**Winch** To identify the control for the equipment used for pulling an object toward the machine or allowing the object to move away from the machine to which the object is attached by means of a rope or cable. To indicate the operational status of the winch. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000-1176
18.2		**Winch, spool out** To identify the control that unwinds the winch cable while tension is applied to control movement of the attached object. To indicate that the winch is spooling out. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000-1539
18.3		**Winch, spool in** To identify the control that winds the winch cable to pull the attached object toward the machine. To indicate that the winch is spooling in. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000-1538
18.4		**Winch, free spool** To identify the control that allows the winch cable to unwind with uncontrolled tension. To indicate that the winch is in the free spool condition. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000-1540
18.5		**Winch, lock** To identify the control that locks the winch to prevent movement of the reel. To indicate that the winch is locked. This symbol is viewed from the perspective of a person looking at the winch from above the machine.	ISO 7000-2070
18.6		**Winch, brake** To identify the control that slows or stops the movement of the winch reel. To indicate the operational status of the winch brake.	ISO 7000-2071

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
18.7		**Winch oil** To identify the fill point for winch oil. To identify the container for winch oil.	ISO 7000-3509
18.8		**Winch oil pressure** To identify the display that provides information about the winch oil pressure. To indicate the winch oil pressure.	ISO 7000-3510
18.9		**Winch angle** To indicate the maximum angle at which the winch can reel in or reel out. The symbol is used together with a number, indicating the maximum winch angle in degrees. This symbol is viewed from the perspective of a person looking at the winch from above the machine from above.	ISO 7000-3000

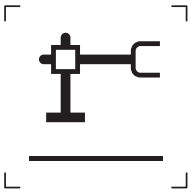
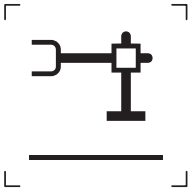
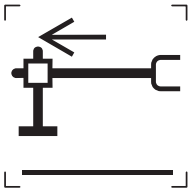
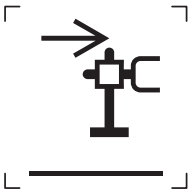
19 Stabilizer symbols

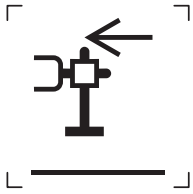
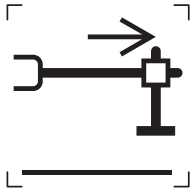
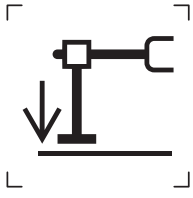
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
19.1		**Left stabilizer** To identify the equipment used to stabilize the machine to prevent movement of the machine during operation. To identify the control for operation of the left stabilizer. If one control operates both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000-2072
19.2		**Right stabilizer** To identify the equipment used to stabilize the machine to prevent movement of the machine during operation. To identify the control for operation of the right stabilizer. If one control operates both the left and right stabilizers, use mirror image of ISO 7000-2072 (see 19.1). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2072
19.3		**Left stabilizer, up; left stabilizer, raise** To identify the control that raises the left stabilizer. To indicate that the left stabilizer is being raised or is in the raised (up) position. If one control raises both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2073
19.4		**Left stabilizer, down; left stabilizer, lower** To identify the control that lowers the left stabilizer. To indicate that the left stabilizer is being lowered or is in the lowered (down) position. If one control lowers both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2074

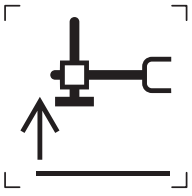
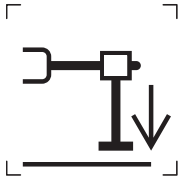
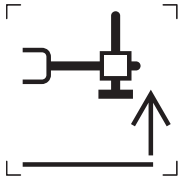
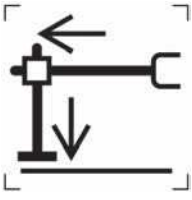
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
19.5		**Right stabilizer, up; right stabilizer raise** To identify the control that raises the right stabilizer. To indicate that the right stabilizer is being raised or is in the raised (up) position. If one control raises both the left and right stabilizers, use ISO 7000-2073 (see 19.3). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1292
19.6		**Right stabilizer, down; right stabilizer, lower** To identify the control that lowers the right stabilizer. To indicate that the right stabilizer is being lowered or is in the lowered (down) position. If one control lowers both the left and right stabilizers, use ISO 7000-2074 (see 19.4). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-1291
19.7		**Left stabilizer, extend** To identify the control that extends the left stabilizer to provide a wider stance of the machine for greater stability during operation. To indicate that the left stabilizer is being extended or is in the extended position. If one control extends both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2075

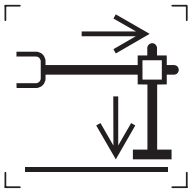
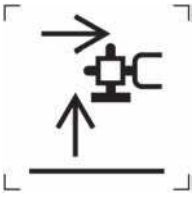
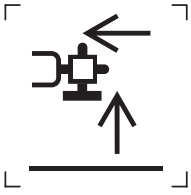
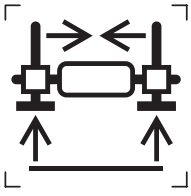
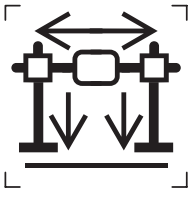
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
19.8		**Left stabilizer, retract** To identify the control that retracts the left stabilizer. To indicate that the left stabilizer is being retracted or is in the retracted position. If one control retracts both the left and right stabilizers, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2076
19.9		**Right stabilizer, extend** To identify the control that extends the right stabilizer to provide a wider stance of the machine for greater stability during operation. To indicate that the right stabilizer is being extended or is in the extended position. If one control extends both the left and right stabilizers, use ISO 7000-2075 (see 19.7). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-1536
19.10		**Right stabilizer, retract** To identify the control that retracts the right stabilizer. To indicate that the right stabilizer is being retracted or is in the retracted position. If one control retracts both the left and right stabilizers, use ISO 7000-2076 (see 19.8). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-1537

20 Outrigger symbols

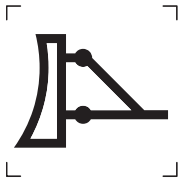
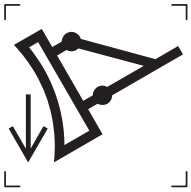
No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.1		**Left outrigger** To identify the control for the left outrigger. If one control operates both left and right outriggers, use this symbol. Use as the base symbol for developing left outrigger symbols. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000-2077
20.2		**Right outrigger** To identify the control for the right outrigger. If one control operates both left and right outriggers, use the symbol in 20.1. Use as the base symbol for developing right outrigger symbols. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2077
20.3		**Outrigger, left beam out, horizontal extension only** To identify the control that extends the left beam away from the machine. To indicate that the left beam is extending horizontally away from the machine or has reached its extension limit. To indicate the operational status of the left beam horizontal extension function. If one control extends both left and right beams, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2078
20.4		**Outrigger, left beam in, horizontal retraction only** To identify the control that retracts the left beam toward the machine. To indicate that the left beam is retracting horizontally toward the machine or has reached its retraction limit. To indicate the operational status of the left beam horizontal retraction function. If one control retracts both left and right beams, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2079

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.5		**Outrigger, right beam out, horizontal extension only** To identify the control that extends the right beam away from the machine. To indicate that the right beam is extending horizontally away from the machine or has reached its extension limit. To indicate the operational status of the right beam horizontal extension function. If one control extends both left and right beams, use ISO 7000-2078 (see 20.3). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-0746A
20.6		**Outrigger, right beam in, horizontal retraction only** To identify the control that retracts the right beam toward the machine. To indicate that the right beam is retracting horizontally toward the machine or has reached its retraction limit. To indicate the operational status of the right beam horizontal retraction function. If one control retracts both left and right beams, use ISO 7000-2079 (see 20.4). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-0747A
20.7		**Outrigger, left jack down, vertical extension only** To identify the control that extends the left jack down toward the ground. To indicate that the left jack is extending vertically down toward the ground or has reached its extension limit. To indicate the operational status of the left jack vertical extension function. If one control extends both left and right jacks, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2080

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.8		**Outrigger, left jack up, vertical retraction only** To identify the control that retracts the left jack vertically up and away from the ground. To indicate that the left jack is retracting vertically up away from the ground or has reached its retraction limit. To indicate the operational status of the left jack vertical retraction function. If one control retracts both left and right jacks, use this symbol. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Application of ISO 7000-2081
20.9		**Outrigger, right jack down, vertical extension only** To identify the control that extends the right jack down toward the ground. To indicate that the right jack is extending vertically down toward the ground or has reached its extension limit. To indicate the operational status of the right jack vertical extension function. If one control extends both left and right jacks, use ISO 7000-2080 (see 20.7). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-0750A
20.10		**Outrigger, right jack down, vertical retraction only** To identify the control that retracts the right jack vertically up and away from the ground. To indicate that the right jack is retracting vertically up away from the ground or has reached its retraction limit. To indicate the operational status of the right jack vertical retraction function. If one control retracts both left and right jacks, use ISO 7000-2080 (see 20.8). This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-0751A
20.11		**Outrigger, extend left beam and left jack** To identify the control that simultaneously extends the left beam and left jack. To indicate that the left beam and left jack are extending simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000-0738B

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
20.12		**Outrigger, extend right beam and right jack** To identify the control that simultaneously extends the right beam and right jack. To indicate that the right beam and right jack are extending simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-0738B
20.13		**Outrigger, retract left beam and left jack** To identify the control that simultaneously retracts the left beam and left jack. To indicate that the left beam and left jack are retracting simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	Mirror image of ISO 7000-0739B
20.14		**Outrigger, retract right beam and right jack** To identify the control that simultaneously retracts the right beam and right jack. To indicate that the right beam and right jack are retracting simultaneously. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-0739B
20.15		**Outrigger, retract left/right beams and left/right jacks; house outriggers (stabilizers)** To identify the control that simultaneously retracts left and right beams and left and right jacks. To indicate that the left and right beams and the left and right jacks are retracting simultaneously. To indicate the operational status of the overall beam and jack retraction function. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-2968
20.16		**Outrigger, extend left and right beams and left and right jacks; extend all outriggers (stabilizers)** To identify the control that simultaneously extends left and right beams and left and right jacks. To indicate that the left and right beams and the left and right jacks are extending simultaneously. To indicate the operational status of the overall beam and jack extension function. This symbol is viewed from the perspective of a person looking forward along the longitudinal axis of the machine.	ISO 7000-3552

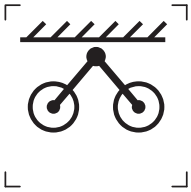
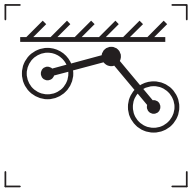
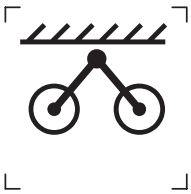
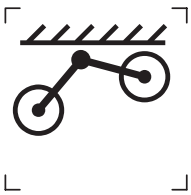
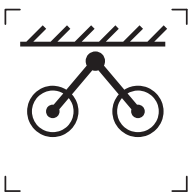
21 Dozer blade symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
21.1		**Dozer blade** To identify the control for the dozer blade. To indicate the operational status of the dozer blade.	ISO 7000-1451
21.2		**Dozer blade, raise** To identify the control that raises the dozer blade. To indicate that the dozer blade is being raised or is in the raised (up) position.	ISO 7000-1452
21.3		**Dozer blade, lower** To identify the control that lowers the dozer blade. To indicate that the dozer blade is being lowered or is in the lowered (down) position.	Application of ISO 7000-1453

22 Stacker blade symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
22.1		**Stacker blade** To identify the control for the stacker blade of the log skidder. To indicate the operational status of the stacker blade.	Application of ISO 7000-2586
22.2		**Stacker blade, raise** To identify the control that raises the stacker blade. To indicate that the blade is being raised or is in the raised (up) position.	Application of ISO 7000-2587
22.3		**Stacker blade, lower** To identify the control that lowers the stacker blade. To indicate that the blade is being lowered or is in the lowered (down) position.	Application of ISO 7000-2588

23 Bogie symbols

No.	Graphical symbol	Symbol title and description	ISO/IEC registration number
23.1		**Bogie** To identify the control for the bogie, which allows the axles of the self-propelled machine to be raised or lowered. To indicate the operational status of the bogie.	ISO 7000-3511
23.2		**Bogie, front axle, raise (lift)** To identify the control that raises (lifts) the front axle so that the wheels attached to the front axle are off the ground. To indicate that the front axle is being raised or is in the raised position.	ISO 7000-3512
23.3		**Bogie, front axle, lower** To identify the control that lowers the front axle so that the wheels attached to the front axle are on the ground. To indicate that the front axle is being lowered or is in the lowered position.	ISO 7000-3513
23.4		**Bogie, rear axle, raise (lift)** To identify the control that raises (lifts) the rear axle so that the wheels attached to the rear axle are off the ground. To indicate that the rear axle is being raised or is in the raised position.	ISO 7000-3514
23.5		**Bogie, rear axle, lower** To identify the control that lowers the rear axle so that the wheels attached to the rear axle are on the ground. To indicate that the rear axle is being lowered or is in the lowered position.	ISO 7000-3515

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 3767-5, *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*

[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

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